AMERICAN ANNALS OF THE DEAF

FOUNDED 1847

Official Organ

Conference of Executives of American Schools for the Deaf
FOUNDED 1868

American Instructors of the Deaf
FOUNDED 1850

POWRIE VAUX DOCTOR, Ph.D.
Editor

D. ROBERT FRISINA, Ph.D.
Associate Editor

Under the Direction of the Executive Committee of the Conference

WILLIAM J. McCLURE	Indiana, 1963
Chairman	
GEORGE T. PRATT	Massachusetts, 1961
DANIEL T. CLOUD	New York, 1961
C. E. MACDONALD	British Columbia, 1962
SAM B. CRAIG	Pennsylvania, 1962
HUGO F. SCHUNHOFF	California, 1963
BEN E. HOFFMEYER	North Carolina, 1963
LLOYD A. HARRISON	Missouri, 1963
MARSHALL S. HESTER	New Mexico, 1963
STANLEY D. ROTH	Kansas, 1963

MARCH, 1961

Volume 106 **Number 2**

THE CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF

President ..... William J. McClure, Indiana
Vice President ..... Hugo F. Schunhoff, California School for the Deaf, Berkeley, Calif.
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The Conference of Executives of American Schools for the Deaf, originally the Conference of Superintendents and Principals of American Schools for the Deaf, was founded in 1868 and subsequently incorporated under the laws of the State of Maryland in 1958. The Conference is an organization of the executive heads of schools for the deaf in the United States and Canada, and has for its object "to promote the management and operation of schools for the deaf along the broadest and most effective lines and to further and promote the general welfare of the deaf."

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The American Instructors of the Deaf, founded in 1850 and incorporated by act of Congress in 1897, is an organization of educators of the deaf in the United States and Canada with the general object of "promotion of the education of the deaf on the broadest, most advanced, and practical lines," and for that purpose "to secure the harmonious action in the organization, of all persons actually engaged in educating the deaf in America."

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The American Annals of the Deaf

The AMERICAN ANNALS OF THE DEAF was founded in 1847 at the American School for the Deaf in Hartford, Connecticut, by the members of the faculty of that school, which is the first free public school for the deaf in America. Although the journal received the approval of the administrative school authorities, the periodical was first entirely sponsored by the members of the faculty. After two years the ANNALS was discontinued for some months but was revived by the members of the American Instructors of the Deaf in their first meeting in New York, N. Y., in 1850.

In June, 1861, the publication ceased because of the War Between the States, inasmuch as the membership was made up of northerners and southerners in almost equal proportion. In September, 1868, the AMERICAN ANNALS OF THE DEAF resumed publication with the editorial office on Kendall Green, in Washington D. C., where it has since remained.

The AMERICAN ANNALS OF THE DEAF is the official organ of the Conference of Executives of American Schools for the Deaf, which was organized in 1868, and of the American Instructors of the Deaf, founded in 1850. According to the Library of Congress it is the oldest educational publication in the United States still in existence. It is also the oldest journal on the education of the deaf in the world.

The ANNALS is published five times a year, being issued in September, November, January, March, and May. The subscription price is $5.00 a year, payable in advance. If five or more copies of the ANNALS are sent to one address, the subscription price is $3.50 a year. Single numbers sell for one dollar, except for the January number which sells for $3.00. Back issues are available for 1847, 1848, 1849, 1857, and from September, 1868, to the present. Indexes for 1847–1875, 1876–1885, 1886–1895, 1896–1905, are available at $4.00 each. Indexes for 1906–1915, 1916–1925, 1926–1935, 1936–1945, 1946–1955, were issued as regular numbers of the ANNALS and may be purchased for $3.00 each. From 1956 indexes are included in the regular November numbers at single copy price. All requests for subscriptions or for back numbers should be addressed to Editor, AMERICAN ANNALS OF THE DEAF, Gallaudet College, Washington 2 D. C.

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AMERICAN ANNALS OF THE DEAF

Vol. 106 March, 1961 No. 2

ANNOUNCEMENTS

The Council for Exceptional Children will hold its annual meeting in Detroit, Michigan, from April 4th to the 8th. The headquarters will be held at the Statler-Hilton Hotel.

Official Call for the Meeting of the Convention

The 40th regular meeting of the American Instructors of the Deaf will be held at the Oregon School for the Deaf, Salem, Oregon, June 25 to the 30th.

Richard G. Brill, *President*
Genevieve M. Ryan, *Secretary*

Official Call for the Meeting of the Conference

The thirty-third regular meeting of the Conference of Executives of American Schools for the Deaf will be held at the Oregon School for the Deaf during the meeting of the American Instructors of the Deaf from June 25 to the 30th, for the purpose of conducting the necessary business, including reports of the officers and chairmen of standing committees, and the election of executive committee members, and such other business as may properly come before the meeting.

William J. McClure, *President*
Ben E. Hoffmeyer, *Secretary*

The 40th Regular Meeting

of the

AMERICAN INSTRUCTORS OF THE DEAF

will be held at the

Oregon School for the Deaf

Salem, Oregon

June 25-30, 1961

●

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●

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MARVIN B. CLATTERBUCK, Supt.

Oregon School for the Deaf

999 Locust St., N.E.

SALEM, OREGON

The Integration of the Deaf in Schools for the Normally Hearing

CLARENCE D. O'CONNOR, M.A., L.H.D., *Supt.*
Lexington School for the Deaf, New York, N. Y.

Most parents of deaf children at some time or other give serious thought to the possibility of their child attending regular schools with normally hearing children. Members of the staff are frequently asked, "Can my child do this?" or "When will my child be ready to do this?" The answers to these questions are complex and call for careful thought. The decision to transfer a very deaf child from the slower-paced special program offered in a school for the deaf to the highly competitive regular program should not be made lightly, for one who is not equal to this challenge might suffer serious emotional damage through the trauma of repeated failure and rejection.

So that we might be better able to counsel parents who might seek our advice concerning this important question, we undertook a study a few years ago of some of the 50 pupils who had transferred from the Lexington School between 1945 and 1957 to public or private classes for the normally hearing. Our primary objectives in this study were to determine the degree of successful or unsuccessful adjustment in integrated programs and the factors influencing success or failure.

Eighteen transfers were finally selected for intensive study. The principal and the teacher in the school each pupil was attending as well as the pupil's parents were interviewed. In addition, each of the 18 pupils were given the following tests at the school:

Psychometric test (WISC)
Hearing Test (Standard pure tone audiometry)
Achievement Test (Stanford)
Personality Inventory (Brunschwig)

The tests and the interviews indicated the following concerning the 18 pupils under study:

1. The Stanford Achievement Tests given to the 18 pupils showed that they generally divided into two groups as far as achievement is concerned. Twelve in Group A were close to the norm for their age level, being only approximately four months behind regular children on the average. However, six of these twelve were achieving better than the average for hearing children. Six in Group B averaged about three and a half years behind children of their particular age level.
2. Both parents and teachers tended to over-rate the pupil's academic achievement in comparison to scores obtained on the Stanford tests, the ratings of parents being even more optimistic than the teachers'.
3. Generally, those in Group A had higher I.Q.s than those in Group B. The range for nine of the twelve in A was 120-132.

4. Those in Group A generally had more useful hearing than those in Group B, the average speech range loss for the former being 79 db as compared with 85 db for Group B.
5. Parent, teacher and pupil interviews and the Brunschwig personality inventory revealed in general that pupils in Group A were more willful, tenacious, attentive, and had outgoing personalities, while those in Group B tend toward being followers and day dreamers, lacking self-confidence and initiative.
6. Those doing best in both groups were with teachers who had adjusted the program to meet the needs of the hearing-handicapped member of the class, such as speaking more slowly, writing more often, arranging for classmate help, and other changes.
7. The presence in the school of a counselor for the hearing-handicapped resulted in higher achievement and better social adjustment for the hearing-handicapped pupils in attendance.

What we learned from our intensive study of these 18 pupils tended to reinforce the views we have consistently held at the Lexington School concerning the possibility of deaf children moving through an educational program geared to the normally hearing. These are:

1. That, with very few exceptions, children who begin life with an average speech-range hearing loss of 60-70 db or more cannot successfully or comfortably integrate educationally with hearing children at the age of five or six. They need the specialized program of a school for the deaf for a number of years, at least, in order to acquire facility in the use of language, without which they would be hopelessly lost in regular classes.
2. That the percentage of pupils in a school for the deaf who are logical candidates for ultimate educational integration in classes for the hearing is small. The vast majority will need the benefit of the specialized program of the school for the deaf throughout their entire educational career.
3. That no pupil should be transferred to regular classes until he has developed communication ability that will make it possible for him to meet the severe competitive conditions he will experience therein. This means that, in general, he will not be ready for such transfer before the age of eight or nine.
4. That a careful assessment of the following factors that will affect the success of his ultimate integration be made for each pupil for whom a transfer to regular classes is being considered:

   (a) His Age

   We have found that the majority of our pupils who are ready for integration do not reach this point before the age of eight or nine. If they have been through our Nursery and Preschool classes and if all other factors are favorable, they may then be mature enough to meet the challenge of the new regime.

   (b) His Communication Ability

   At best a hearing-handicapped child moving from a school for the deaf to regular classes will be far behind hearing children in his ability to use and understand language. He should, however, have the ability to communicate expressively through speech and

writing, and receptively through reading and lip-reading supported by the most effective possible use of his residual hearing with sufficient skill to be able to articulate with and become an effectively functioning member of the regular class. If his use of language is not securely established, even within narrow limits when compared to his hearing peers, then he is not ready for transfer. His reading level should be at least at the national norm for his age.

(c) His Intelligence

This is one of the most critical factors for successful integration. Children with marginal ability and a relatively severe hearing loss have little chance of achieving satisfactorily in regular classes. This will be difficult enough for those with better than average ability. Accordingly, he should have an I.Q. of 110 or over.

(d) His Personality Makeup

The hearing-handicapped child frequently must take a lot of emotional cuffing-about in regular classes. He must be prepared for repeated even though only temporary failure through not always understanding what is being discussed. He must also be prepared for unintended neglect at times on the part of his teacher or social rejection by his classmates. The tougher his emotional fibre the more successfully he may over-ride these road blocks. A timid, sensitive, hearing-handicapped youngster who lacks confidence or does not have the strength to fight back may be emotionally chopped to pieces in an integrated situation to the extent that he may find himself more segregated in the so-called "normal" program than he was in the so-called "abnormal special school segregation" program from which he was "liberated."

(d) His Parents

The differential that frequently is the most important factor influencing successful integration is the pupil's parents. How well are they oriented to the problems he will face and to his overall needs? How much help and guidance can they be relied upon to give their child at home? The answers to these questions are important in arriving at a decision concerning transfer.

(f) The Program to Which he will be Transferred.

The degree to which the staff in the pupil's future regular program is oriented to the special needs of a hearing-handicapped pupil is vastly important. The capacity of a teacher to make simple management adjustments in the pupil's classroom environment and program will affect his entire achievement pattern.

5. Guidance and Follow-up. Once the decision has been made to transfer a pupil to a regular class, conferences should be set up with the parents and the staff of the school to which he will be transferred. The creation of a favorable educational, social, and emotional climate for the pupil is essential. Similar follow-up conferences should be arranged after the pupil has been transferred.

One final word concerning this question. As appealing as integration may be to parents who have every right to hope that some day their deaf child might attend his neighborhood school with his hearing brothers and sisters, it might be that such a program is not logical for him. If so, this should be accepted realistically. More than that, if a transfer is tried and the child is not adjusting satisfactorily, parents should have the courage and wisdom to return the child to the school for the deaf. Above all, continue to seek the counsel of the teachers and professional workers in the school for the deaf, for they also love your child and hold dear to their hearts his happiness and well being.

—Lexington School *Parents Newsletter*, June, 1960

Minutes of the Organizational Meeting of the Council on Education of the Deaf, Washington, D. C.

October 24-25, 1960

RICHARD G. BRILL, Ed.D., *Supt.*

California School for the Deaf, Riverside, Calif.

The meeting on Monday, October 24, 1960 was held in the Conference Room of the Library at Gallaudet College.

The meeting on Tuesday, October 25, 1960 was held in the Board Room of The Volta Bureau.

All members of the Council on Education of the Deaf were present at both meetings with the exception of Marshall S. Hester of New Mexico who found it impossible to attend. In addition to the members, Powrie V. Doctor, Editor of the *American Annals of the Deaf* and Mrs. Jeanette Ninas Johnson, Editor of *The Volta Review* were present at both sessions by invitation.

As provided by the Constition the President of the Conference of Executives of American Schools for the Deaf was the convening chairman. William J. McClure, holding this office, opened the meeting with the following remarks:

> This meeting today represents the culmination of almost a year of planning. The idea of an association to represent the various organizations interested primarily in the education of the deaf was first mentioned at the Vocational Rehabilitation Workshop at Fort Monroe, Virginia, October 12-15, 1959.
>
> Representatives of the A. G. Bell Association for the Deaf, the Conference of Excutives of American Schools for the Deaf and the American Instructors of the Deaf met in Washington, D. C., on January 20, 1960, to further discuss the idea.
>
> In Evanston, Illinois in April, 1960 a constitution was drawn up by a joint committee representing the three organizations. The Executive Committee of the American Instructors of the Deaf ratified the proposed Constitution and approved affiliation of their group with the Council on the Education of the Deaf on April 6, 1960, at a meeting in Evanston, Illinois. On the same date the Conference of Executives in session at Evanston, Illinois, also ratified the Constitution and approved affiliation with the CED. The A. G. Bell Association for the Deaf took similar action on June 30, 1960, while in session in Rochester, New York.
>
> To me the formation of the Council on Education of the Deaf is a significant step forward in the education of the deaf in America. It reemphasizes what we all know so well—that educators of the deaf are always willing to work together to improve educational opportunities for deaf children and consequently opportunities for deaf adults as well. Whatever may be the minor points of difference in our approaches or in our philosophies, these are submerged in our

areas of common agreement and in our desire to progress in our field. I believe there has long been a need for this type of organization.

According to the Constitution of the Council on Education of the Deaf which has now been ratified by the three member organizations, the President of the Conference of Executives of American Schools for the Deaf has been delegated the responsibility of selecting the time and place of the first meeting and presiding until the first president has been chosen for a term of two years from among the representatives of the A. G. Bell Association.

The floor is now open for nominations for the office of President of the Council on Education of the Deaf.

The name of S. Richard Silverman was placed in nomination for the office of president and he was unanimously elected.

President Silverman assumed the chair and declared nominations were open for the office of secretary. Richard G. Brill was unanimously elected to this office. Before the nomination and election it was pointed out that the Constitution does not provide for the office of vice-president. The Constitution provides that in the absence or disability of the President the Secretary shall act as presiding officer. In the event the office of President is vacated the Secretary shall act as presiding officer until a successor to the President shall be elected.

William J. McClure was unanimously elected to the office of treasurer.

President Silverman conducted an open discussion on a restatement of the objectives of the organization as listed in the Constitution. This preliminary discussion was for the purpose of formulating questions to be discussed. The objectives of this organization are to encourage and facilitate cooperation among the member organizations in such areas as the following: A. Publication practices, B. Legislation, C. Meetings, D. Liaison with lay and peripheral groups, E. Mechanisms for receiving foreign groups, F. Teacher certification, G. Public information, H. Research. Following the general restatement of the objectives as a group the areas were discussed in detail, not always in the order listed in the Constitution.

Under the subject of legislation the content of S.J.R. 127 in its amended form as it passed the Senate was discussed. It was agreed that Title I of this Resolution which is concerned with the preparation of teachers of the deaf is quite satisfactory to the Council on Education of the Deaf and should receive its vigorous support for reintroduction. It was also agreed that the C.E.D. would approve an amendment to the Resolution that would provide advanced graduate courses for those trained teachers of the deaf who are preparing to instruct in training centers, and in improving such courses. This amendment would appear to satisfy those groups that objected to S.J.R. 127 because of absence of such a provision.

It was agreed that the Council on Education of the Deaf would prefer a bill which would include only the provisions of Title I of the old S.J.R. 127, but the C.E.D. would be willing to support a bill containing those provisions of Title II as well as Title I.

If an omnibus bill, providing for several or all areas of special education is introduced, the attitude of the C.E.D. toward supporting such

a bill will be greatly influenced by the provisions concerned with the advisory committee. The C.E.D. would be more inclined to favor an omnibus bill that provides an advisory committee for each area of exceptionality rather than a single committee.

Dr. C. D. O'Connor reported on an Inter-Agency Relations Committee Meeting which had been held recently in New York. It was pointed out at that meeting that a review committee of forty-four people to evaluate the testimony presented at the Elliott Sub-Committee Hearings had not included one professional educator of the deaf.

President Silverman appointed a Committee on Legislation composed of George T. Pratt, Chairman, William J. McClure, Richard G. Brill, and David Mudgett. This committee includes in its responsibilities both immediate legislation and any pertinent items of future legislation.

The next general topic discussed was the relationship of the C.E.D. with other lay and peripheral groups. It was again emphasized that *the three groups comprising this organization have as their primary concern the education of deaf children.* The relations between the C.E.D. and other professional and organized groups such as the Council for Exceptional Children, the American Speech and Hearing Association, the National Association of the Deaf, etc. will be on an individual basis. There is no reason for a statement of over-all policy at the present time. It appears probable that relations with the Council for Exceptional Children will be primarily concerned with legislation at the present time. The President will use his judgment in handling items pertaining to liaison with other groups and may appoint individuals on an ad hoc basis from the member organizations to carry out responsibilities as particular situations may require.

It was agreed that after the Committee on Legislation met with representatives of the Council for Exceptional Children that the C.E.D. would issue a statement to other groups to inform them as to where the C.E.D. stands and what it plans to do in regard to legislation of current concern.

It was agreed that a C.E.D. mailing list would be established. A mimeographed list is to be checked by the members, then addressograph plates will be made up at the *Annals* office to be utilized for group mailings.

Publication practices as related to common standards for the acceptance of advertising by the two professional journals, *The American Annals of the Deaf* and *The Volta Review,* were discussed. The editors of the two journals were requested to reexamine the present standards to see if they need revising and to agree on common standards. The question of resources for the editors to turn to for evaluations of hearing aid advertisements were also discussed. No conclusions were reached on this item, but sources were specified to be available on an interim basis.

Dr. E. B. Boatner explained to the C.E.D. the work of a Conference of Executives committee that is contemplating revising and modernizing the book *English Phrases and Idioms* by J. L. Smith which was published to aid in teaching language to deaf children. Dr. Boatner requested endorsement of this project by the C.E.D.

McClure moved, seconded by Pratt, that the Council on Education of the Deaf endorses with enthusiasm and commendation the efforts of

the committee of the Conference of Executives to revise and modernize *English Phrases and Idioms* by J. L. Smith, and that the C.E.D. express its appreciation to the son of J. L. Smith for making the rights available. The motion passed.

The two editors were requested to explore the possibilities for publishing this prospective revision.

Dr. Powrie V. Doctor presented to the C.E.D. a request for information to furnish material for a publication the UNESCO Secretariat is preparing on special education provisions for all kinds of handicapped children. The request had come from the World Federation of the Deaf via the president of the National Association of the Deaf. The following material was requested:

1. Bibliographies either in the general field of special education or concerned with the education of deaf and hard of hearing children.
2. Glossaries of terms concerned with the medical, educational and/or psychological aspects of handicapped children.
3. Directories of national and/or international organizations, associations and institutions concerned with handicapped children and their education.

It was agreed that the Bibliography was material that should be available from Dr. Stephen P. Quigley of the Gallaudet College faculty and the lists of organizations should be available from Stanley K. Bigman of the Gallaudet College faculty. Glossaries of terms would be a long term project that might be undertaken by a committee.

It was concluded that this matter of information for the UNESCO bulletin would be handled by a letter from the President relative to the sources of the requested information as indicated above.

The next order of business related to the adoption of the Constitution of the Council on Education of the Deaf. Before its adoption two changes of a purely procedural nature were incorporated. The first of these was to designate the chief officer as President rather than Chairman under Article V OFFICERS and whatever else the term appears in the Constitution. The second of these was to spell out the terms of office by adding Section 6 to Article V as follows:

"All terms of office, both elective and appointive, shall begin on August first in the year in which they are selected."

O'Connor moved, Boatner seconded, that the Constitution be adopted. Motion passed unanimously.

Dr. Leonard M. Elstad opened the discussion on the proposed International Meeting on Education of the Deaf in 1963. Much time was devoted to a discussion of many of the ramifications of such a meeting. Following are the conclusions agreed upon:

a) The Council on Education of the Deaf will act as the host organization of the International Meeting.
b) The meetings will be held on the campus of Gallaudet College and many of those attending will be housed and fed on the campus.
c) The tentative dates selected are June 23-28, 1963.
d) Ambrosen moved, Pratt seconded, that Dr. Silverman and Dr. Elstad will serve as Co-Chairman of the International Meeting until the meeting and all business concerned with it is completed.

This co-chairmanship will not be affected by the election of a new president of the C.E.D. in 1962. Motion carried.

e) It was agreed that Dr. Powrie V. Doctor would serve as Executive Secretary of the International Meeting.

f) The term "International Meeting" will be used until it is determined whether this will be a *Congress* or a *Conference*. The decision will depend upon some governmental policies and certain legal ramifications.

g) Program planning will be broad in scope with representation of varying points of view where there are differences in basic philosophy in participating countries.

One of the listed objectives of the C.E.D. is to develop mechanisms for receiving foreign groups. It was agreed that the president should appoint a committee to develop such mechanisms.

At the first meeting held at the Statler-Hilton Hotel in Washington, D. C. on January 20, 1960 where general principles for the establishment of this organization were agreed upon it was made a matter of the record that it would be suggested that each of the three organizations appropriate an initial contribution of $200.00. Up to the present time there have been no official expenses. The member organizations are now requested to contribute $100.00 of the original $200.00, with checks being sent to the treasurer.

Procedure was agreed upon whereby all bills are to be sent to the president for approval and then payment will be made by the treasurer. The checking account will provide for three alternative signatures.

The printing of appropriate letterheads for the C.E.D. and for the Committee on Legislation was authorized.

The next annual meeting of the C.E.D. shall be held at Salem, Oregon during the meeting of the Convention of American Instructors of the Deaf, June 25-30, 1961.

The gratitude of the members of the Executive Board of the Council on Education of the Deaf is expressed both to Gallaudet College and to The Volta Bureau for their hospitality at this meeting.

Members, Council on Education of the Deaf

A. G. Bell Association for the Deaf

George T. Pratt, President
Principal, The Clarke School for the Deaf
Northampton, Massachusetts

Jerome F. Donovan
Parent of Deaf Child
Weston, Connecticut

Clarence D. O'Connor
Superintendent, Lexington School for the Deaf
New York City

S. Richard Silverman
Director, Central Institute for the Deaf
St. Louis, Missouri

Conference of Executives of American Schools for the Deaf

William J. McClure, President
Superintendent, Indiana School for the Deaf
Indianapolis, Indiana

Edmund B. Boatner
Superintendent, American School for the Deaf
West Hartford, Connecticut

Leonard M. Elstad
President, Gallaudet College
Washington, D. C.

Marshall S. Hester
Superintendent, New Mexico School for the Deaf
Santa Fe, New Mexico

Convention of American Instructors of the Deaf

Richard G. Brill, President
Superintendent, California School for the Deaf
Riverside, California

Lloyd A. Ambrosen
Superintendent, Maryland School for the Deaf
Frederick, Maryland

C. Joseph Giangreco
Ass't Supt., Iowa School for the Deaf
Council Bluffs, Iowa

David Mudgett
Deaf Teacher, Illinois School for the Deaf
Jacksonville, Illinois

The Brain Injured (Neurologically Impaired) Deaf Child: A Discussion of the Significance of the Problem, Its Symptoms and Causes In Deaf Children

McCay Vernon, M.S.

California School for the Deaf, Riverside, California

Introduction

A type of child that is becoming increasingly prevalent in the schools for the deaf today is the youngster who has special education problems with a neurological cause—faults in the structure or function of the nervous system, especially the brain. This article will refer to such children as neurologically impaired. Their condition is not always obvious, but it is serious because it usually results in academic disabilities and behavior problems.

In spite of the rather hidden nature of this handicap, schools for the deaf in the United States reported 1,293 such cases in 1959 compared to 593 in 1954* (4, 6). This represents more than a doubling of the total in five years, which, in terms of incidence, is a rise of from 2.7% to 4.9%. Scholars in the education of the deaf such as Helmer Myklebust, Powrie Doctor, and William Hardy have spoken and written extensively on the problem, its growth and its significance (5, 11, 12, 14, 19). Additional concern about the situation is reflected in the observations of experienced teachers who are continually surprised by differences between the deaf child they used to teach and many of those who are now entering schools (5).

The purpose of this article is to describe the symptoms and causes of neurological impairment in deaf children in order to provide schools with a practical basis for determining which of their deaf children may have this additional handicap.

The Symptoms of Neurologically Impaired Children

Medical specialists, audiologists, and psychologists have done extensive work in describing neurologically impaired children (1, 2, 5, 8, 9, 10, 12, 13, 14, 15, 18, 19, 22, 23, 24). The following discussion of symptoms is based on this body of scientific knowledge combined with the author's own experience as a psychologist and teacher of deaf children. The symptoms will be described under three main headings: the academic, emotional, and physical. A careful examination of these will reveal an interrelationship or patterning rather than mutual exclusiveness.

*These figures were arrived at by including aphasic and cerebral palsied children as part of the group of neurologically handicapped. As both of these conditions are caused by brain injury this is the only logical interpretation of the data.

Academic Symptoms of Neurological Impairment

1. *Large discrepancies between intelligence and academic achievement.* When deaf children of normal or better IQ are appreciably below average in their ability to do school work, there is a strong indication they may have brain injury. In cases where there is also usable hearing the probability of such damage is even greater. (9, 10).

In schools that do not have IQ scores available, the neurologically impaired child can sometimes be identified as the one who shows fairly good general knowledge in vocational and social activities, yet is almost totally unable to learn academically, or else has an academic unevenness in which certain skills such as concept formation are very weak.

Incidentally, educators of the deaf are often amazed at some of the discrepancies between IQ and school achievement. It is possible that neurological damage is an important causal factor which could explain many such cases.

2. *Abnormal difficulty with language.* Language is a primary problem for almost all deaf students, but there are some children in every school who never progress linguistically beyond the ability to match basic words with pictures. Others reach a level at which they are able to read third grade books with difficulty after 10 or 15 years of education. Such achievement in the presence of average or better intelligence strongly suggests brain injury of a type called aphasia. Though it has this special name of aphasia it is still a form of neurological impairment (3, 8, 12, 18, 19). This fact is often overlooked by schools in reporting relative incidences of the two conditions to the *American Annals of the Deaf.*

3. *Rigidity or perseveration.* This consists of repeating a behavior pattern when it is no longer appropriate to do so. It is shown when a child is unable to change from one academic principle to another, when he sits writing some letter or word over and over again, when he is too inflexible to adjust to differences in class or dormitory routine, or when, in general, he acts in a repetitive manner and seems unable to adjust to change (1, 2, 8, 9, 10, 15, 18, 22, 23, 24).

In some cases children who have this rigidity in learning situations tend to have a stiffness or rigidity in posture and movement also (22).

4. *Poor memory.* Rarely does a teacher of the deaf go through a week without having occasion to end a description of a child with "if he could only remember." When memory is grossly deficient and mental retardation is not present there is definite possibility of neurological impairment (1, 2, 8, 9, 10, 12, 15, 16, 18, 22, 23, 24).

5. *Distractability.* This symptom involves such things as a short attention span, carelessness and flightiness. Its basis lies in the child's inability to ignore or dismiss from his attention distractions that would not bother the normal youngster. Needless to say, extreme distractability is a serious block to learning (2, 9, 10, 12, 15, 16, 18, 22, 23, 24).

6. *Poor ability in abstract thinking.* This is shown by an inability

to deal with anything that is not concrete. Children with this problem may be able to memorize lessons or deal satisfactorily with what they can see or touch, but they have trouble reasoning, grasping principles, and conceptualizing. They may know that one block and one block are two blocks, but they are unable to apply this principle to other situations, and such things as the basic idea of addition are beyond their comprehension (2, 9, 10, 12, 15, 16, 18, 22, 23, 24).

7. *Poor handwriting and drawing ability.* The forming of letters and words or the drawing of pictures requires much more coordination and perceptual ability than we sometimes realize. Large handwriting or handwriting which wanders up and down the page are examples of this type of difficulty. The children may show a tendency to twist and turn the body or the paper while writing or drawing. Such behavior is highly correlated with brain injury (2, 9, 22, 23, 24).

8. *Perceptual deficiency.* Essentially this is a condition in which the child does not see or perceive things in a normal manner. He may be unable to recognize letters or geometric figures. He may confuse letters and reverse words such as "was" and "saw." Perceptual difficulties are sometimes subtle and require skill to diagnose, but they are very basic to the neurologically impaired child's educational problems and are, in many cases, amenable to correction by both proper teaching techniques and medical treatment (2, 8, 9, 10, 12, 15, 18, 19, 22, 23, 24).

9. *Attention to insignificant details.* The child with this characteristic does not focus his attention on entire objects or what we call wholes. Instead, he will pick out such things as minute details on the teacher's dress or a tiny speck on his book or the blackboard. (18, 22, 23)

Emotional Symptoms of Neurological Impairment

10. *Inability to control impulses.* This symptom is illustrated by temper tantrums in which a child may assault a classmate in the middle of a lesson, yet readily admit this is wrong and be unable to explain why he did it. Other aspects of weak impulse control are recklessness, overly intense responses, and non-amenity to discipline. During adolescence these children may be unable to inhibit their sexual drives and may expose themselves or exhibit other forms of socially unacceptable sexual behavior (2, 9, 10, 18, 22, 23, 24).

11. *Emotional shallowness.* Children of this type have a flat emotionality, and show almost a vegetative quality in extreme cases. In a lesser degree it is sometimes seen as excessive indifference to interpersonal relations. The child is unable to show warmth to others, including his family or teacher (18, 22, 23, 24).

12. *Unstable emotionality.* Neurologically impaired children with this problem have good and bad days without apparent cause. They may burst out laughing or crying for no apparent reason, or giggle at a moment of seriousness. Often they are described as temperamental, unpredictable, or inconsistent (18, 22, 23, 24).

13. *Egocentricity.* Due to their perceptual problems and poor so-

cial skills, brain injured children often relate all happenings to themselves and are unable to give meanings to things that are beyond their ego-realm. For instance, school rules are understood only in terms of how they affect the child and are not understood in their universal sense. (18, 22, 23)

14. *Stubbornness.* This is the social counterpart of rigidity and perseveration in academic behavior. Though it needs no explanation, it is surprising and perhaps indicative that deaf children use this term so often in describing other people. (18, 22, 23)

15. *Excitability.* Children with this behavior pattern are easy to identify because they are the ones everybody likes to tease. Just a few remarks are sufficient to set them off. (2, 18, 22, 23)

16. *Hyperactivity.* A high activity level is common in brain injured children. Such youngsters tend to be continually on the move and seem almost tireless. (2, 9, 10, 15, 18, 19, 22, 23, 24)

17. *Insomnia.* The inability to sleep or a reversal of the sleeping cycle seems to be an excellent indicator of neurological damage in deaf children. (22, 23)

Physical Symptoms of Neurological Impairment

18. *Poor coordination.* It is exemplified by clumsiness, jerky movements, poor balance, peculiar gait, stiffness, and general inability to do physical activities with skill. Cerebral palsied children are extreme examples of this, but there are many less apparent instances. (2, 9, 10, 15, 18, 19, 22, 23, 24)

19. *Poor vision.* Visual defects are of high prevalence among the neurologically handicapped, and, as recent research shows, among deaf children. Tunnel vision, jerky movements of the eyes (nystagmus), difficulty in focusing, and crossed eyes are obvious examples of this, but there are many others of importance that require professional examination for diagnosis (18, 22, 23).

20. *Abnormal physical behavior.* This includes activities such as rocking back and forth, banging the head against the crib or wall, and rolling the eyes. (22)

Those familiar with the deaf children or the research in this area will be amazed at the number of symptoms of neurological impairment that are generally listed as characteristics of the so-called "deaf personality," for example, rigidity, poor ability to abstract, attention to detail, egocentricity, stubbornness, perceptual deficiency, and certain motor coordination problems such as balance and gait (18, 19, 21). A high correlation of symptoms such as this between deaf children and brain injured children implies a much higher incidence of neurological impairment present in deaf children than is presently reflected in available statistics, or it may imply that deafness, as it cuts and distorts stimulus patterns and sensory interrelations, brings about characteristics which parallel the condition of the brain injured.

The Causes of Neurological Impairment

The main factor that has led to the increase we now have in neurologically impaired children is the advance of medical science that makes

it possible to save the lives of many infants who, in years past, would have died (2, 5, 9, 11, 14, 17, 19, 20). This may seem like a minor thing in terms of numbers until we realize that 10% of all recorded deaths in the United States were viable fetuses and newborn infants. In 1955, this represented an estimated total of 900,000 (20). Though the lives of more and more of these children are preserved, many are born with imperfect nervous systems and other handicaps. Seen in this light, it is clear that schools for the deaf have and are going to have a very real problem because often the neurological damage involves the hearing mechanism. Children with this etiology may represent severe educational difficulties for the schools, because the earlier the damage occurs in the life of the individual, the more pervasive the effects (20).

With these general facts as a frame of reference, an examination of the possible causes of neurological impairment is in order. These causes will be grouped into three divisions: those related directly to the parents, those connected with pregnancy and childbirth, and those which deal with the medical history of the child.

Causes Related Directly to the Parents

1. Maternal diabetes. (20, 22)
2. Rh factor incompatibility. (Can be a cause of jaundice which, in turn, may cause deafness and neurological impairment.) (20, 22, 18)
3. History of maternal reproductive failure, infertility, pathologic menstruation, and other gynecological disorders. (18, 20, 22)
4. Serious maternal heart trouble. (18, 20, 22)
5. Serious maternal kidney trouble. (20)
6. Excessive intoxication by the mother during gestation. (20)
7. Excessive nutritional deficiency during pregnancy. (18, 20, 22)
8. Extremely young or relatively old parents. (18, 20, 22)
9. German measles (rubella) in the mother during pregnancy, especially the first three months. (2, 3, 12, 13, 15, 18, 20, 22, 23)

Possible Causes Related to Pregnancy and the Birth Process

1. Placental complications. (20)
2. Infections. (The important thing here is actually the cause rather than the infection itself.) (20)
3. Complications of labor (dry birth, prolonged labor, etc.) (18, 20)
4. Anoxia. (18, 20)
5. Caesarean section. (18, 20)
6. Pregnancy of extremely short or excessively long duration. (18, 20)
7. Delivery other than head first. (20)
8. Use of forceps. (20, 22)
9. Improper use of drugs or anesthetic. (22)

Factors in the Medical History of the Child

1. The following infectious diseases often lead to neurological impairment: (18, 20, 22)
   a. Meningitis
   b. Encephalitis
   c. Measles

d. Whooping cough
e. Pneumonia
f. Poliomyelitis
g. Scarlet fever
h. Jaundice
i. Mumps
j. Influenza

2. Violent reaction to inoculations. (This is almost tantamount to having the disease.) (20)
3. Abnormal pulmonary ventilation. (20)
4. History of convulsive disorder such as epilepsy. (18, 20, 22)
5. Congenital malformation (a cause of 9% of prenatal deaths in years past, but modern medicine is saving some of these infants.) (20)
6. Head injuries from falls and accidents. (18, 20, 22)
7. The appearance of a deaf child in a family where there is no other deafness present, and no explanation for this child's hearing loss. (18)

The number of traits attributed to both deaf children and neurologically impaired children was previously noted. An examination of etiological factors involved in the two conditions shows a remarkably high correlation. At least 85% of the items listed as possible causes of neurological impairment are also causative factors in deafness. A multiple correlation of this magnitude, involving both symptoms and causes, implies that the incidence of brain injury in deaf children is probably far higher than present estimates and statistics indicate.

Some Psychological Tests Useful In Diagnosing Neurological Impairment In Deaf Children

At present 46 of the 72 residential schools for the deaf in the United States and Canada have psychologists and many day schools and classes have access to psychological services (6). Professional help of this kind can be of great value in diagnosing neurological impairment, and should obviously be used whenever possible. A brief discussion of some tests and items from tests that are useful for detecting brain injury are listed below.

1. *Wechsler Performance Scales.* Pattern analysis of these scales is of controversial validity as a diagnostic tool. There is fairly general agreement, however, that in the hands of a capable clinical psychologist a partial qualitative type of diagnosis is possible (2, 18, 23).

2. *The diamond drawing from the Stanford Binet.* Has good validity, is generally available, and can be easily administered (2, 18, 23).

3. *Bender-Gestalt.* This test seems to have possibilities, but scoring norms are inadequate and, at present, its interpretation is rather subjective (2, 18).

4. *Goodenough "Draw a Man" Test and Machover Human Figure Drawing Interpretations.* Listed together for convenience, these measures, particularly the latter, reveal symptoms such as impulsiveness, rigidity, anxiety, and perceptual difficulties, but here again, scoring for brain injury lacks standardization (2, 13, 18).

5. *Ellis Test.* Has definite possibilities but lacks validation. (18)

6. *Marble Board.* Potentially excellent, but very hard to get. Scoring instructions are inadequate. (18, 22, 23)

7. *Hiskey Blocks.* Require a great deal of visualization and abstract ability and are of value for this reason. (18)

8. *Rorschach.* Its use requires not only competency in the use of the test, but also a fluency in the use of the manual communication used by the deaf. Results reported where these conditions are not met are of highly dubious validity. (18)

9. *Kohs Blocks.* These are similar to the block design subtest of the Wechsler, but are more extensive. A qualitative diagnosis is possible, but norms are lacking for organic involvement. (18, 22, 23)

10. *Various measures of motor ability and development.* Among these would be the railwalking test, tests of laterality, and certain items on the Vineland Social Maturity Scale that pertain to motor development. (18, 22, 23)

One point should be brought up before leaving the subject of the testing of children with severe hearing loss. It is a difficult task requiring both a thorough knowledge of psychometrics and of deaf children. Grave errors have been made by well-meaning psychologists familiar with the former, but not aware of the ramifications of deafness. Because errors are easily made in the psychological evaluation of deaf children, it behooves experienced educators in the field to weigh such results against their own observations before coming to a final decision about a deaf child in their care.

The Diagnostic Forms and Their Use

Two diagnostic forms have been designed based on the symptoms and causes of neurological impairment discussed in this article. The purpose of these forms is threefold.

1. To aid schools for the deaf in determining which of their students may be brain injured. This would indicate which children are in need of further differential diagnosis. It would also aid in grouping of children with more similar educational problems.

2. To provide a frame of reference for reporting the incidence of brain injury to the *Annals.* If these forms were used, all schools would report essentially the same thing, and the resulting statistics would be more meaningful.

3. To be used as a research tool in the study of neurological impairment.

It is suggested that the form on symptoms be filled out first. It should be distributed to teachers, administrators, and counselors who are in close contact with the children involved. If results of this data indicate possible neurological impairment, then the second form on causes should be filled out, using the child's application blank and available medical records. Quantitative scoring standards are being formulated and will be made available.

These diagnostic measures represent a practical attempt to detect brain injury in deaf children. They are not a substitute for a complete differential diagnosis. Though they are based on aspects of the thinking of leading scientists in the study of this problem and for this reason have great face validity, they are totally lacking in actual empirical validation at present. Under no circumstances would a person be justified in making a definite diagnosis of brain injury on an individual basis using only these forms.

Diagnostic Screening Form for the Detection of Neurological Impairment (Brain Injury) in Deaf Children

(Symptom: Form 1)

	(Check one) Severeness of Symptom		
	Not Present	Mild	Severe
I. *Academic Symptoms*			
1. *Poor memory*	( )	( )	( )
2. *Abnormal difficulty with language.* Child has much more trouble with language than do other deaf children of similar intelligence (include all aphasics here).	( )	( )	( )
3. *Rigidity and Perseveration.* Child is inflexible, can't adjust to changes, and has a tendency to continue the repetition of routine tasks.	( )	( )	( )
4. *Child's IQ score or apparent intelligence far exceed his academic ability.*	( )	( )	( )
5. *Poor ability in abstract thinking.* Cannot deal with that which is not concrete. Reasoning, grasping principle, and generalizing are poor.	( )	( )	( )
6. *Distractability.* Short attention span, flightiness, and carelessness.	( )	( )	( )
7. *Poor handwriting and drawing ability.* Unable to form letters. Writing doesn't follow lines on the page. Drawings reflect poor perception.	( )	( )	( )
8. *Over attention to detail.* Child does not pay attention to whole things, but focuses on details such as a speck on the blackboard, a dot on the teacher's dress, or other small, insignificant objects.	( )	( )	( )
9. *Perceptual deficiency.* Confuses letters of the alphabet such as "d" and "b", reverses words (was and saw) and has excessive trouble un-	( )	( )	( )

	(Check one) Severeness of Symptom		
	Not Present	Mild	Severe
derstanding lip reading or manual communication at normal speeds.			
II. *Emotional Symptoms*			
10. *Poor control of impulses.* Temper outbursts, recklessness, explosive and inappropriate emotionality, childishness, not amenable to discipline, or lacking in normal sexual inhibitions.	( )	( )	( )
11. *Emotional shallowness.* Does not develop normal emotional ties with others. Is indifferent to interpersonal relations, even with family.	( )	( )	( )
12. *Unstable emotionality.* Has good days and bad days. Laughs or cries without apparent reason. Temperamental, unpredictable, and inconsistent.	( )	( )	( )
13. *Egocentricity.* Thinks only of himself and his desires.	( )	( )	( )
14. *Stubborness.*	( )	( )	( )
15. *Excitability.* Can be aroused to high emotional pitch by minor things such as teasing.	( )	( )	( )
16. *Hyperactive.* Is on the go continually and never seems to tire.	( )	( )	( )
17. *Insomnia.* Can't sleep, wakens early, or has reversed sleep cycle, wanting to stay awake at night and sleep during the day.	( )	( )	( )
III. *Physical Symptoms*			
18. *Poor coordination.* Clumsiness, jerky movements, poor balance, peculiar walk, and general lack of skill in physical activities (include all cerebral palsied children).	( )	( )	( )
19. *Poor vision.* Such things as tunnel vision, jerky movements of the eyes (nystagmus), difficulty in focusing, or partial sightedness.	( )	( )	( )
20. *Abnormal behavior.* Actions such as rocking back and forth, banging the head, or rolling the eyes.	( )	( )	( )
TOTALS	( )	( )	( )

After sufficient quantitative data have been collected, scores will be standardized for the purpose of interpreting results on an objective basis.

Diagnostic Screening Form for the Detection of Neurological Impairment (Brain Injury) in Deaf Children

(Causes: Form 2)

(In many cases, all of the information will not be available. This doesn't mean that the cause cannot be determined, nor does it necessarily reduce the value of this diagnosis.)

	Known to be present	Known not to be present	Unknown
A. *Causes Related to Parents*			
1. *Maternal illnesses* such as diabetes, rubella (German measles), heart trouble, or kidney trouble.	( )	( )	( )
2. *Age of mother over 35 at birth of child.*	( )	( )	( )
3. *Age of father over 50 at birth of child.*	( )	( )	( )
4. *History of maternal reproductive failure,* infertility, pathologic menstruation, or other gynecological disorders.	( )	( )	( )
5. *Parental Rh factor incompatibility.*	( )	( )	( )
6. *Nutritional deficiency during pregnancy.*	( )	( )	( )
B. *Factors in the Medical History of the Child*			
7. *Any of the following diseases.* (Circle diseases present in child history, and check appropriate column at right.)	( )	( )	( )
Meningitis — Scarlet fever			
Encephalitis — Jaundice			
Measles — Influenza			
Whooping cough — Pneumonia			
Poliomyelitis			
8. *Violent reaction to inoculation.*	( )	( )	( )
9. *History of epilepsy or other convulsive disorder.*	( )	( )	( )
10. *Congenital malformation.*	( )	( )	( )
11. *Head injuries from falls and accidents.*	( )	( )	( )
12. *Deafness of unknown cause where there is no family history of deafness.*	( )	( )	( )
C. *Causes Related to Birth Process*			
13. *Anoxia.*	( )	( )	( )
14. *Infections.*	( )	( )	( )
15. *Difficult labor.*	( )	( )	( )

	Known to be present	Known not to be present	Unknown
16. *Caesarean section.*	( )	( )	( )
17. *Use of forceps.*	( )	( )	( )
18. *Improper use of drugs or anesthesia.*	( )	( )	( )
19. *Breech delivery.*	( )	( )	( )
20. *Birth premature or excessively late.*	( )	( )	( )

Summary

There is a high incidence of neurologically impaired children in schools for the deaf and the number is increasing. Four main factors lead to these conclusions.

1. Statistics in the *American Annals of the Deaf* show a rise of from 593 such children in 1954 to 1,293 in 1959.

2. Medical science is now saving many physically imperfect infants that would have died in years past. Many of these children have damage to their nervous systems that deafen them, in addition to leaving them with other handicaps.

3. A high correlation between the symptoms of deafness and neurological impairment shows that there is a close relationship between the two. Actually, central deafness by definition is a form of neurological impairment.

4. In recent years experienced educators of the deaf have reported they have an increasing number of deaf children who seem to have other learning problems than those caused by deafness alone.

Academic, emotional, and physical symptoms of neurologically impaired children have been described, and a diagnostic form designed to aid in the detection of deaf children with this problem is provided. Causes of this condition have also been discussed under headings dealing with parental factors, conditions of pregnancy and childbirth, and the medical history of the child. A diagnostic form based on the causes is provided. Psychological tests of value in such a diagnosis have been listed and briefly discussed.

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A Mechanical Device For Teaching Sight Vocabulary To Young Deaf Children

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Introduction

Purpose

The purpose of this study was to develop and test a mechanical teaching device which would teach sight vocabulary to young deaf children by employing immediate positive reinforcement. It is reasonable to believe that an appropriately designed teaching machine used in the classroom would facilitate and supplement the teacher's work for the following reasons:

1. The teacher could devote less time to drill material.
2. The pupils would be engaged in effective self-instructional activities during periods when the teacher was occupied in teaching other children in the class.
3. Certain learning principles that are inherent in appropriate mechanical teaching devices would be utilized.

Rationale

The learning behavior primarily sought in the educational process with the deaf is verbal learning. New knowledge gained from recent research in the field of learning stands ready for application. Skinner (1958) asserts that some sort of teaching machine is needed in order to apply these findings effectively to acquiring and maintaining verbal behavior. A teacher cannot supply adequate and sufficient reinforcements for much of the verbal learning hoped for in the classroom.

The basic process for developing verbal behavior in the deaf is reading. Pugh (1948) reports finding "unlimited" evidence to show that deaf children get much more precise understanding of language when it is presented in the written form. Associating printed or written words with their meanings without immediate reference to their oral symbols has gained wide acceptance among teachers of the deaf since silent reading methods were proposed for the deaf by Gates (1926) and demonstrated effectively by Thompson (1927). At the beginning reading level, meanings associated with printed words form the bases for controlling and

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extending development in reading and other media of communication. Since silent reading techniques are an especially effective procedure with the deaf, teaching machine techniques seem well adapted to the special needs of the deaf. These thoughts prompted the following study.

Procedure

The procedure of the study involved three phases: (1) the design and construction of an experimental teaching machine, (2) the development of a method for presenting material to be taught in the machine, and (3) an experimental study to test the effectiveness of the machine as a teaching device. (Falconer, 1959)

The Teaching Machine

An experimental teaching machine was designed and constructed by the author. In harmony with Porter's (1957) classifications, it might be defined as a stimulus-response, multiple-choice, immediate reinforcement, electro-mechanical teaching device. It was designed to meet the following basic requirements:

1. No verbal instructions are required for operation.
2. The operator is limited to a single operation in making a response.
3. Immediate reinforcement of a correct response is provided.
4. Programming is arranged to induce a large number of correct responses with relatively few errors.
5. Left to right eye movements are induced to simulate proper reading habits.
6. Preparation of teaching material is easy.
7. Insertion of material into machine is easy.
8. Teaching materials can be easily inter-changed.
9. Operation of the machine is dependable.
10. Size of the machine is practical.

The machine, briefly described, consisted of a drum housed in an 18 inch ply-wood box. Upon the drum were fixed twelve 4 by 8 inch cards. One card at a time was visible under a 3 by 6 inch glass window which was set in a face panel forming an inclined surface of 45° across the upper front of the box. Near the left side of each card was a picture of an object, and on the right side was a vertical, multiple-choice array of five words. On the face panel, near the right edge of the window, were five holes, each hole set on a horizontal line with one of the words on the card in view. By inserting a wooden stylus into one of the holes, the operator could indicate his choice of the word which he thought was associated with the picture. If his choice was correct, the drum was automatically turned, and the next card, or *frame*, of the program sequence was presented. A similar performance was repeated on the next frame. If his choice was incorrect, nothing happened, and he continued making choices until he made the correct response. Thus, the action of the drum was contingent upon a correct response, providing immediate reinforcement and strengthening the association between the picture and the proper word. Presumably, incorrect responses would be extinguished because reinforcement would not occur.

The Teaching Material

Techniques for presenting material to be taught in the machine were investigated in a series of informal trials with 44 normally hearing children in first grades and kindergarten and refined in a pilot study with 2 five-and-a-half-year-old deaf children. Words were presented under varying conditions for the purpose of determining (1) the effects of size of the multiple-choice array, (2) the nature of the distracting words in the arrays, and (3) significant motivational and temporal factors. The following principles emerged:

1. A multiple-choice array of five words seemed to provide more challenge and interest than fewer words and more appropriately satisfied theoretical principles by requiring more rigorous discriminatory behavior.
2. The distracting words in the array need not have any direct relationship to the vocabulary in the teaching program in progress and could include nonsense syllables. They should not be too similar to the key word upon initial presentation but should increase in similarity as progression was made through the sequence of frames programming a particular word, thus gradually increasing the difficulty of the discriminatory task.
3. To maintain a high level of activity and to provide an adequate number of reinforcements, the introduction of three new words for each learning session best fitted the mechanical characteristics of the experimental teaching machine. A word was introduced and repeated three times, followed by a similar sequence of a second and third new word (1111-2222-3333).
4. The length of time required for each session was about five minutes, the amount of time required for three rotations of the drum. This constituted three repetitions of the material for each session at the machine. The third repetition of the material was usually free of errors, suggesting effective learning.

Fifteen nouns were programmed for teaching by the machine. These nouns and the distracting words were taken from a standard primary word list. There were few repetitions of the distractors throughout the entire program so that the children would not give undue attention to them.

The teaching program consisted of sets of six frames for each of the fifteen nouns. The key words were randomly located in the sequence of multiple-choice arrays.

The first frame of each set contained the key word typed below the picture. This served as a *prompt* which would tend to exclude random responses and direct the attention of the learner immediately to the correct response. By matching the key word under the picture with its counter-part in the multiple-choice array, the learner was readied to recognize it in the following frame, which contained no prompt.

The distracting words in the multiple-choice array of the first frame of each set of six words were dissimilar from the key word, but they increased in similarity with progression through the set. For example,

no initial consonant was duplicated, as a rule, in the first frame, but the initial consonant and often the final consonant of the key word were duplicated in one of the distractors of the second frame. A subsequent frame might have two distractors with the same initial consonant as the key word. Other similarities to the key word were introduced in subsequent frames, also, such as reversal cognates, similar endings, similar vowels, and so forth. This increased the complexity of the discriminatory task to some extent but did so in relatively small steps. Extreme similarities were avoided, however, because it was desirable to insure a large number of continuously successful initial responses throughout each session at the machine.

The first four frames of each set of six words were used in the initial presentation of each word. The fourth and fifth frames of each set were used in review sessions; but, in the final review session which included twelve different words, the sixth frame of each set was used. (The fifteen words are identified in Table 1.)

The Experimental Teaching Program

Subjects—A group of eight profoundly deaf children, who formed a first primary class in the Oral Division of the Illinois School for the Deaf, were selected as subjects for the experimental teaching program. The median age of the children was six years and eleven months. The intellectual characteristics of the group were typical of a class at their school level.

Procedure—The fifteen nouns selected for teaching were believed by the teacher to be unknown to the subjects. To ascertain this and to provide a control for measuring the extent of learning and retention, the words were incorporated in a multiple-choice, paper and pencil test administered at the beginning of the experiment. It was thought, furthermore, that the paper and pencil test could serve as a device for judging the effect of transfer to another, although similar, reading experience.

The machine was located in the classroom of the subjects. The author and the teacher alternately supervised the experimental teaching program. The subjects left the group, individually, to take turns at the machine.

Each subject spent about five minutes per day at the machine for ten consecutive school days. The five minutes, it may be recalled, constituted the time usually required to complete three repetitions of the material.

On the last day of the experiment, the subjects were retested by the teacher with copies of the same paper and pencil test that had been given previously. This was done about three hours after the time of the last session at the machine. The same test was administered a third time, two weeks later, to measure the degree of retention. Since the subjects were never informed of their performances on the tests, the absence of feed-back provided no apparent reinforcement as a result of taking the tests. The teacher made an effort to avoid the use of any of the experimental words during the teaching period and during the intervening two weeks so as to offer no additional reinforcements to those provided by the machine. (The experimental teaching schedule is given in Table 1.)

The results of the tests were treated statistically, using the normal-distribution model described by Guilford. (1956, p. 211)

Table 1

Schedule of Experimental Teaching Program

Monday	Administration of initial paper and pencil test.
	Second orientation to operation of machine.
	Taught words, *kite, bee, fox.*
Tuesday	Taught words, *owl, mouse, bear.*
Wednesday	Reviewed above six words.
Thursday	Taught words, *goat, fire, swing.*
Friday	Taught words, *barn, clock, eyes.*
Monday	Reviewed second six words.
Tuesday	Taught words, *leg, foot, toe.*
Wednesday	Reviewed first six words.
Thursday	Reviewed second six words.
Friday	Reviewed twelve words, one frame each.
	Included last three words taught.
	Excluded three words least in need of review.
	Afternoon: Teacher administered retest of same paper and pencil test, to check learning.
Friday	Two weeks later: Teacher administered second retest, to check retention.

Results

The principal result of the experimental teaching program was the demonstration of the effectiveness of the experimental teaching machine to teach a sight vocabulary to young deaf children. A summary of the major findings are as follows:

1. Scores on the pretest showed that the fifteen nouns selected for teaching by the machine were unknown to the group of eight deaf subjects. This was apparent from the obtained group mean of 4.1 words correct. Such a deviation from the theoretical mean of 3.0 words correct could occur by chance. The probability was 0.62. The range was from 1 to 6 words correct.
2. The results of the retest, which was given at the end of the experimental teaching program to determine the degree of learning and the effect of transfer, showed a group mean of 13.75 words correct. The probability of obtaining such a mean by chance is less than one in a million. The thoroughness of the teaching is suggested by the fact that no score was less than 13. The mode was 14. These two scores were the range. Failure to obtain perfect scores of 15 seems to have been a function of the inexperience of the subjects in taking multiple-choice word tests and to some minor faults in the test itself.
3. The results of the retention test, given two weeks later, showed nearly perfect retention of the material. The mean for the group was 13.63 words correct. The range was from 12 to 15 words correct. Three subjects had scores of 15.
4. If the criterion of learning were acknowledged to be one or more errorless repetitions of the material, it was demonstrated under observation that all of the fifteen words were learned by all of the subjects.

5. An analysis of the errors revealed that 98% of the responses made by the subjects were correct. This satisfies the requirement for reinforcement of a large amount of correct responses and suggests that the subjects made good use of the prompt on the introductory frame for each new word presented.
6. The subjects reacted very favorably toward the machine. They were eager to take their turns at the machine and worked purposefully, seeming to enjoy the intellectual task more than the mechanical aspects of the device. Most of them indicated to the teacher that they would like to have worked at the machine more frequently than the schedule permitted.

Discussion

The conclusion drawn from this exploratory study is that a mechanical device using multiple-choice items as instructional material can be used effectively to supplement the teacher's work in the classroom. More learning could have been produced by the machine over a two-week period than was demonstrated in this study because more frequent use of the machine would be expected under practical conditions. Other forms of vocabulary than nouns could be taught, as well as phrases, and short sentences. The technique lends itself favorably to reading readiness exercises, to developing number concepts, and to teaching arithmetic combinations. The extent to which language can be developed by this technique is undoubtedly fairly limited. Study is needed to determine the parameters of its effective usage. After the children have learned to read and write to some extent, it is anticipated that they should "graduate" to the use of machines which employ "composed" responses as advocated by Skinner (1958). Skinner's techniques, with appropriate modifications of them as knowledge advances, appear to offer our greatest immediate promise for advancing the educational achievement of the deaf. (Falconer, 1960)

Summary

1. The purpose of this study was to develop and test a mechanical teaching device which would teach sight vocabulary to young deaf children by employing immediate positive reinforcement. Such a device would (1) reduce the amount of time spent by the teacher on drill material, (2) engage pupils in self-instructional activities, and (3) take advantage of certain learning principles inherent in teaching machines.
2. An immediate reinforcement, electro-mechanical, teaching device was designed and constructed for the purpose of using multiple-choice items as instructional material.
3. Teaching material was developed for use in the machine, and techniques for programming the material were explored in a preliminary study and refined in a pilot study.
4. The teaching machine was tested for its effectiveness as a teaching device in an experimental study with a group of eight, six-and-seven-year-old deaf children. Each subject spent about five minutes a day at the machine for a period of two weeks—ten consecutive school days. A program of fifteen nouns was presented in the

machine. All of the nouns were learned by all of the subjects. Retention, measured two weeks later, was found to be nearly perfect.

5. It is anticipated that this will be a new technique for use by teachers of the deaf to supplement their work in the classroom. Through careful development, programs may be devised for more effective teaching of reading and language. Skinner's techniques, which involve composing responses, offer promise for use with older deaf children who can read and write.

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PROGRAM
of the
FORTIETH MEETING
of the
CONVENTION OF
AMERICAN INSTRUCTORS OF THE DEAF

Oregon State School for the Deaf
Salem, Oregon

JUNE 25 - 30, 1961
Roy M. Stelle, M.S., M.A., Chairman, Program Committee

CONVENTION THEME
Setting Our Sights for the Sixties

SATURDAY, JUNE 24

2:00-5:00 p.m. General Registration

SUNDAY, JUNE 25

10:00 a.m. to 5:00 p.m. General Registration
3:00 p.m.
Training Meeting of all Section Leaders and Workshop Chairmen
PLAY SHED
3:00 p.m. Training Meeting of all Section Leaders and Workshop Chairmen
8:00 p.m. Opening General Session
President Richard G. Brill, Ed.D., *Presiding*
Invocation: Reverend George Ring, Hope Lutheran Church for the Deaf, Portland, Maine
Address of Welcome: Marvin B. Clatterbuck, *Superintendent*, Oregon School for the Deaf
Greetings from City of Salem: Russell F. Bonesteele, *Mayor*, City of Salem, Oregon
President's Report: Dr. Richard G. Brill, President of the Convention of American Instructors of the Deaf
Introduction of Guest Speaker
Remarks: Roy M. Stelle, *Program Chairman*
Announcements: Marvin Clatterbuck

MONDAY, JUNE 26
LANGUAGE

PLAY SHED *Section Leader:* Mrs. Donaldina Tennis
9:00-9:45 a.m.
Keynote Speaker: Sister Jeanne d'Arc, St. Josephs Institute for the Deaf, University City, Missouri
9:45-10:30 a.m.
Upper School Language: Prof. Robert F. Panara, Gallaudet College, Washington, D. C.

Middle School Language: Miss Helen Dial, Illinois School for the Deaf, Jacksonville, Illinois

Lower School Language: Mrs. Katherine Miner, Hosford School for the Deaf, Portland, Oregon

10:30-11:30 a.m. Morning session of Reading workshops
1:15-2:15 p.m. Afternoon session of Reading workshops
2:15-2:45 p.m. Workshop participants and recorder formulate report
3:00-3:45 p.m. Section meeting to summarize workshops

READING WORKSHOP LEADERS

Mrs. Madeline Dutton
Mrs. Esther McGarry
Mrs. Joyce Murphy
Miss Alyce Thomas
Mrs. Gladys Waldorf
Mrs. Ruth Wiggin

AUDITORY TRAINING

MAIN BUILDING CHAPEL *Section Leader:* Dr. Frank Frueh

9:00-9:45 a.m.

Keynote Speaker: Jacqueline Keaster, M.S., *Chief Audiologist,* Hearing and Speech Clinic, Children's Hospital Society of Los Angeles, Los Angeles, California

10:00-11:30 a.m. Morning sessions of workshops
1:15-2:15 p.m. Afternoon session of workshops
2:15-2:45 p.m. Workshop participants and recorder formulate report
3:00-3:45 p.m. Section meeting to summarize workshops

Auditory Training Workshop Topics, Leaders and Recorders

"Learning Experiences and Auditory Training,"
Bessie Pugh and Norman Anderson

"Development of Auditory Training Programs,"
Paul Bird and Alfred Lamb

"Research in Auditory Training,"
Dr. Fred Berg

"Audiometric Testing: Demonstration and Participation,"
Dr. Geary McCandless

MULTIPLE HANDICAPPED DEAF

9:00-9:45 a.m.

Keynote Speaker: Dr. Edgar L. Lowell, *Administrator,* John Tracy Clinic, Los Angeles, California

Panel Moderator: Dr. Robert Frisina, *Director,* Speech and Hearing Clinic, Gallaudet College, Washington, D. C.

Panelists:

Deaf-Blind: Mr. Byron Berhow, *Superintendent,* Washington School for the Blind

Emotionally Disturbed: Dr. Sue Warren, *Chief Psychologist,* Oregon Fairview Home, Salem, Oregon

Brain-Injured and Aphasic: Miss Ann Mulholland, Teacher Training Department, Northwestern University

Cerebral Palsied: Dr. William E. Miller, *Assistant Director,* Institute of Logopedics, Wichita, Kansas

11:30 a.m. Convention Picture

6:30 p.m.
Day School Teachers' Dinner
Chairman: Miss Audrey Hicks
Little Paper Family Dinner – Open to the Public
The L.P.F. Gridiron
Dr. Powrie V. Doctor, Dr. Leonard M. Elstad

TUESDAY, JUNE 27

READING

PLAY SHED *Section Leader:* Gilbert Delgado

9:00 a.m.
Introduction: Gilbert Delgado, *Section Leader*
Keynote Speaker: Dr. Luther C. Gilbert, *Professor Emeritus.* University of California, Berkeley, Calif.
10:10 a.m. Organization of Workshops
10:30-12:00 a.m. Morning session of Reading workshops
12:00-1:00 p.m. Lunch
1:15-2:15 Afternoon session of Reading workshops
2:15-2:45 p.m. Workshop participants and recorder formulate report
3:00-3:45 p.m. Section meeting to summarize workshop
3:45 p.m. Science Research Associates – SRA demonstration

TENTATIVE WORKSHOPS AND TOPICS

1. *Pre-Primary Level* (approx. age range 5-6-7)
   A. Word attack skills (word recognition) and development of a meaningful vocabulary.
      1. Methods in word recognition.
      2. Procedures in building meaningful vocabulary.
         a. vocabulary readiness
         b. experience vocabulary

   Leader: Miss Naomi Nortz

   B. Effecting Reading Comprehension or Interpretation
      1. Methods and procedures in reading presentation.
      2. Visual aids used at this level.
      3. Correlating language skills and reading skills.

   Leader: Miss Eloise Kennedy

   C. Reading Readiness
      1. Reading experience activities.
      2. Language experience.
      3. Making reading an enjoyable activity.

   Leader: Miss Juliet McDermott

2. *Primary Level*
   A. Progressive Development of Word Attack Skills and Development of a Meaningful Vocabulary.
      1. Procedures used in teaching vocabulary.
      2. Word recognition skills and how they are developed.

   Leader: Mr. Carl Gastman

   B. Reading Comprehension or Interpretation
      1. Methods and procedures in reading presentation.
      2. Reading materials on the primary level.

3. Visual aids, charts and other reading aids.

Leader: Miss Livingston Patton

C. Processes in Building Effective Work or Study Habits, Concentration, and the Deveolpment of Reading Appreciation
   1. Classroom control and its relation to effective study.
   2. Motivating the deaf child to read.
   3. Procedures used to encourage outside reading.

Leader: Miss Evelyn Shellgrain

3. *Intermediate Level* (ages 11-12-13-14)

A. Further Development of Word Attack Skills and the Continuous Development of a Meaningful Vocabulary.
   1. Discussion of methods used in teaching word recognition.
   2. The crucial years in vocabulary development, how we can better bridge the gap that occurs on this level.

Leader: Mrs. Kathryn Williamson

B. Effecting Reading Comprehension or Interpretation and Reading Flexibility (Rate)
   1. Methods in reading presentation.
   2. Teacher demonstrations of various materials presently used in reading.

Leader: Miss Alyce Thomas

C. Processes in Developing Effective Work and Study Habits and the Development of Reading Appreciation.
   1. Motivating the deaf child to read.
   2. Developing and expanding interest in reading.
   3. Methods in building study habits in and out of class.

Leader: Mr. Justin Dozier

4. *Advanced Level* (Ages 15-20)

A. Methods and Procedures in expanding Word Attack Skills and Developing a Lasting Meaningful Vocabulary.
   1. Accelerating vocabulary development.
   2. Methods used in building a meaningful vocabulary.
   3. Process used in developing independent word attack skills.

Leader: Miss Betty Ohlinger

B. Means of Effecting Reading Comprehension or Interpretation and Reading Flexibility (Rate)
   1. Procedures used in reading presentation.
   2. Teacher demonstrated reading materials.

Leader: Mr. William Blea

C. Building Effective Study and Work Habits and the Development of Lasting Reading Appreciation.
   1. Reading motivation.
   2. Activities to develop interest in reading.

Leader: Kenneth Lane

5. Development of Special Reading Skills Used in the Content Subjects (Intermediate and Advanced)
   1. Coordination of reading skills necessary in the content subjects by the reading and content subject teachers.
   2. Developing ability to use reference materials.

Leader: Miss Katherine Casey

6. Evaluation and Description of Materials Used in the Intermediate and Advanced Grades (Grades 4-10)
   1. Exhibits and discussion of materials used at this level.
   2. Introduction to exhibits of several publishing companies.
   3. Low level high interest materials.

   Leader: Mr. C. L. Gover

7. Visual Aids in Reading—The Role of Captioned Films.
   1. Reading projectors and accelerators.
   2. Opaque projector.
   3. Captioned films program.

   Leader: Mr. Malcolm Norwood

8. Reading Research (Specific topic to be selected by leader).
   Leader: Miss Ann Mulholland

9. Reading for the Slow Learner (all levels)
   1. Methods and materials used.
   2. Classroom procedures in teaching the slow learner.

   Leader: Miss Elizabeth Titsworth

RESEARCH

LINDSTROM HALL WEST *Section Leader:* Dr. Stephen Quigley

9:00-9:45 a.m.
"Use of Computers in Measuring Hearing Loss," Edgar L. Lowell, Ph.D., John Tracy Clinic, Los Angeles, Calif.

10:15-11:00 a.m.
"Verbal Learning in Children with Reduced Auditory Acuity," John H. Gaeth, Ph.D., Wayne State University, Detroit, Michigan.

11:00-11:45 a.m.
"The Use of Finger Spelling in the Education of Pre-school Deaf Children," Marie Meier, Ph.D., Queens College, Flushing, New York.

2:15-3:00 p.m.
"Comparison of the Performance of Day Students and Resident Students in Residential Schools for the Deaf," D. Robert Frisina, Ph.D., *Director,* Hearing and Speech Clinic, Gallaudet College, Washington, D. C.

VOCATIONAL EDUCATION

MAIN BUILDING CHAPEL *Section Leader:* Paul E. McClelland

9:00-9:45 a.m.
Keynote Speaker: Dr. Boyce Williams, Consultant for Deaf and Hard of Hearing, Office of Vocational Rehabilitation, Department of Health Education and Welfare, Washington, D. C.

10:00-11:30 a.m. Morning session of Vocational Education workshops.
"Administration and Supervision of Vocational Programs"
Speaker Consultant: Mr. Gilbert R. Bloomquist, Supervisor of Trade and Industrial Education, State Department of Education, Salem, Oregon.

"Homemaking"—*Chairman,* Mrs. Bernice Owens
Speaker Consultant: Miss Bertha Kohlhagen, Director of Home Economics, State Department of Education, Salem, Oregon.
Vocational Rehabilitation, Vocational Guidance and the School Vocational Program.
Consultant: Dr. Boyce Williams
1:15-2:15 p.m. Afternoon session of Vocational Education Workshop.
2:15-2:45 p.m. Workshop participants and recorder formulate report.
3:00-3:45 p.m. Section meeting to summarize workshop.

WORKSHOP CHAIRMEN

Mr. Howard H. Ramlow
Mr. William Peters
Mr. Thomas Fisher
Mr. John M. Fessant
Mrs. Bernice Owens
Mr. Roy K. Patton
Mr. William Ransdell

WORKSHOP RECORDERS

Miss Joan Meek
Mrs. Gertrude Krehbiel
Mr. L. Dwight Rafferty
Mr. Earl Rogerson
Mrs. Vera M. Ruckdeshel
Miss Mabel Armstrong
Mrs. Floyd McDowell

MULTIPLE HANDICAPS

(Slow Learning Deaf Child)

PRIMARY BUILDING RHYTHM ROOM — Mr. Ralph Hoag

9:00-9:45 a.m.
Opening Speaker: Dr. Hans Furth, *Assistant Professor of Psychology,* Catholic University, Washington, D. C.
Panel Moderator: Myron A. Leenhouts, *Principal,* California School for the Deaf, Berkeley, California.
Panel:
Evaluation: Dr. George Leshin, *Hearing Conservation Supervisor,* State Board of Health, Portland, Oregon.
Curriculum: Miss Eloise Kennedy, *Supervising Teacher,* New Mexico School for the Deaf, Santa Fe, New Mexico.
Counseling and Vocational Planning: Roy Holcomb, *Vocational Principal,* Tennessee School for the Deaf, Knoxville, Tennessee.
1:00 p.m.
Luncheon: Wives of Superintendents and Principals, Mrs. Marvin Clatterbuck.
6:30 p.m. Salmon Barbeque and Entertainment

VISUAL EDUCATION

LINDSTROM HALL EAST — *Sectional Leader:* John Gough

4:00 p.m. *Discussion:* Captioned Films for the Deaf
Additional evening showings of captioned films to be scheduled

WEDNESDAY, JUNE 28

SOCIAL STUDIES

(Intermediate Level)

PRIMARY RHYTHM ROOM — *Section Leader:* Kendall Litchfield

9:00-9:45 a.m.
"Are Your Cultural Relations Showing?" Florence E. Beardsley, *Director of Elementary Education,* State of Oregon; member of U. S. National Commission of UNESCO.
10:00-11:30 a.m. Morning session of Social Studies workshop.
2:00-3:00 p.m. Afternoon session of Social Studies workshop.
3:00-3:30 p.m. Workshop participants and recorder formulate report.
3:45-4:30 p.m. Section meeting to summarize workshop.
Workshop Leader: Miss Betty Phillips

SCIENCE

SMALL GIRLS RECREATION ROOM
PRIMARY DORMITORY BUILDING — *Section Leader:* Robert Clingenpeel

9:00-9:45 a.m.
"Rethinking Science Education," Dr. Donald Stotler, *Science Supervisor,* Portland Public Schools.
9:45-10:30 a.m.
"National Science Foundation," Dr. Stanley E. Williamson, *Chairman,* Department of Science Education, Oregon State College, Corvallis, Oregon.
10:30-11:30 a.m. Morning session of Science workshop.
2:00-3:00 p.m. Afternoon session of Science workshop.
Afternoon session of Pre-school and Kindergarten workshop.
3:00-3:30 p.m. Workshop participants and recorder formulate report.
3:45-4:30 p.m. Section meeting to summarize workshop.

WORKSHOP LEADERS

Mr. Lawrence Barrett
Mr. Robert Kelly
Mr. Harold Ramger

RECORDERS

Mrs. Grace Mudgett
Mr. James McKeon

PRE-SCHOOL KINDERGARTEN

PLAY SHED — *Section Leader:* Mrs. Hattie Harrell

9:00-10:30 a.m.
"What Is Being Done for the Pre-Schooler and His Parents," or "Fulfilling the Needs of the Pre-Schooler and His Parents."
Panel Discussion:
Participants:
Miss Hazel Bothwell, *Consultant,* Deaf and Hard of Hearing Division of Special Education, State Department of Education, Springfield, Illinois
Miss Mabel Gulick, *Teacher,* in Charge of Pre-school, Kansas State School for the Deaf, Olatha, Kansas

Ray Valencia, *Visiting Teacher,* New Mexico State School for the Deaf, Santa Fe, New Mexico
Miss Clara Hamel, *Principal,* Rochester School for the Deaf, Rochester, New York
Marvin Clatterbuck, *Superintendent,* Oregon State School for the Deaf, Salem, Oregon
Dr. Freeman McConnell, *Professor* and *Chairman,* Hearing and Speech Division, Department of Special Education, University of Tennessee, Knoxville, Tennessee

10:30-11:30 a.m.
Morning session of Pre-school and Kindergarten workshop.
2:00-3:00 p.m.
Afternoon session of Pre-school and Kindergarten Workshop.
3:00-3:30 p.m. Workshop participants and recorder formulate report.
3:45-4:30 p.m. Section meeting to summarize workshops.

WORKSHOP LEADERS

Miss Rosemary Burke
Miss Annie Hampton
Sister Marianna
Mrs. Gladys Waldorf
Mrs. Genevieve Tucker

RECORDERS

Mrs. Byron Berhow
Mrs. Wilma Jahns
Sister Jeanne d'Arc
Mrs. Katherine D. Miner
Miss Alice Clark

HEALTH AND PHYSICAL EDUCATION

LINDSTROM HALL *Section Leader:* Allen J. Hayek

9:00-9:45 a.m. *Keynote Speaker:* (To be confirmed)
10:00-11:30 a.m.
Morning session of Health and Physical Education workshops.
Superintendent's and Principal's workshop: J. Jay Farman, *Superintendent,* The Austine School for the Deaf, Brattleboro, Vermont.
"Physical Education and Athletics in the Residential School."
Track workshop: Thomas Berg, *Track Coach,* Gallaudet College, and *Coach* of U. S. Olympic Track Team.
Basketball workshop: Henry O. Bjorlie, *Athletic Director,* South Dakota School for the Deaf.
Girls' Physical Education and Coaches workshop: Nita Hiett, *Girls' Coach,* Oregon School for the Deaf and the Blind.
10:00-10:45 a.m.
Film: Basic Movement Education in England, by Betty Ludwig.
10:50-11:30 a.m.
Demonstration: Teaching Progression in the Phases of Gymnastics, Tumbling, Free Exercise and Balance Activities.
Football workshop: (Leader to be confirmed)
2:00-3:00 p.m.
Afternoon session of Health and Physical Education workshop.
3:00-3:30 p.m. Workshop participants and recorder formulate report.
3:45-4:30 p.m. Section meeting to summarize workshops.

VOCATIONAL EDUCATION SECTION

MAIN BUILDING CHAPEL — *Section Leader:* Paul E. McLeland

9:00-11:45 a.m.
Demonstration and Discussion for Homemaking Teachers.
Leader: Mrs. Bernice Owens

CONFERENCE OF EXECUTIVES OF AMERICAN SCHOOLS FOR THE DEAF

PRE-SCHOOL BUILDING DORMITORY — *President:* Dr. William J. McClure

9:00-11:30 a.m. Business Meeting
PLAY SHED — Dr. Richard Brill, *Presiding*
1:15 p.m. Business Meeting
7:00 p.m. — Dr. William McClure, *Presiding*
Dinner: Conference of Executives and Wives

VISUAL EDUCATION

LINDSTROM HALL EAST — *Sectional Leader:* John Gough

4:00 p.m. *Discussion:* Captioned Films for the Deaf
Additional evening showings of captioned films to be scheduled

THURSDAY, JUNE 29

VOCATIONAL EDUCATION

MAIN BUILDING CHAPEL — *Section Leader:* Paul E. McLelland

9:00-9:45 a.m.
Keynote Speaker: Dr. George B. Cox, Department of Industrial Education, Oregon State College, Corwallis, Washington.
Workshop Leaders and Recorders same as on Wednesday for Section on Vocational Education.

SOCIAL STUDIES ADVANCED

RHYTHM ROOM PRIMARY BUILDING *Section Leader:* Kendall D. Litchfield

9:00-9:45 a.m. *Keynote Speaker:* (To be confirmed)
Workshop Leader: James A. Hoxie

MATHEMATICS

SMALL GIRLS RECREATION ROOM — *Section Leader:* Eugene Thomure

PRIMARY BUILDING
9:00-9:45 a.m.
Keynote Speaker: Leon Auerbach, *Professor,* Gallaudet College, Washington, D. C.
Mr. William M. Watson, *Director of Mathematics,* Portland Public Schools, Portland, Oregon.

Workshops:

A. Kindergarten through second grade
B. Third and fourth grades
C. Intermediate
D. Advanced (Includes Junior High but not Algebra)
E. Algebra
F. Slow Learners

SPEECH

PLAY SHED — *Section Leader:* Tony Christopulos

9:00-9:15 a.m.
Introduction: Tony Christopulos, *Principal,* Utah School for the Deaf, Ogden, Utah.
9:15-9:50 a.m.
Keynote Speaker: Miss Patricia Stafford, *Director,* Teacher Training Department, Los Angeles State College.
Morning session of Speech workshops.
10:00-10:30 a.m.
Lower School Speech: Mrs. Pearl Hickman, Tucker-Maxon School.
10:30-11:00 a.m. Discussion period.
Methods and Materials Used in Teaching Speech in the Lower School: Miss Marjorie Magner, *Supervising Teacher,* Clarke School for the Deaf, Northampton, Mass.
11:00-11:30 a.m. Discussion period.
1:00-1:30 p.m. Afternoon session of Speech workshops.
Speech in the Middle School: Miss Aleen Hunt, Utah School for the Deaf, Ogden, Utah.
1:30-2:00 p.m. Discussion
1:15-2:15 p.m.
"Speech in the High School. Possible? Probable? Realistic?" Audience Discussion led by Wallace Bruce, Utah School for the Deaf, Ogden, Utah.
Speech Demonstrations
1:45-2:15 p.m.
Demonstration — Lower School. Mrs. Mildred S. Kennedy, Tucker-Maxon School for the Deaf, Portland, Oregon.
2:15-2:30 p.m. Discussion
1:45-2:15 p.m. Demonstration — Middle School.
2:20-2:50 p.m. Workshop participants and recorder formulate report.
3:00-4:00 p.m.
Workshop leaders to summarize talks and demonstrations.

PRINCIPALS AND SUPERVISING TEACHERS

LINDSTROM HALL — *Section Leader:* Albert W. Douglas

9:00-9:15 a.m.
Introduction: Albert Douglas, *Principal,* Texas School for the Deaf.

9:15-9:50 a.m.

"The Accelerated Child," Edward L. Scouten, *Chairman,* Preparatory Department, Gallaudet College, Washington, D. C.

Workshops:

Parent Counseling
Day-Residential School Relationships
The Accelerated Child
Teacher Evaluation
Pupil Evaluation

10:00-11:30 a.m.

Morning session of Principals and Supervising Teachers.

1:15-2:15 p.m.

Afternoon session of Principals and Supervising Teachers.

2:15-2:45 p.m. Workshop participants and recorder formulate report.

3:00-3:45 p.m. Section meeting to summarize workshops.

WORKSHOP LEADER: Miss Frances I. Phillips, Richard K. Lane Lane

WORKSHOP RECORDER: Mrs. Harriet Gough

TEACHER TRAINING DINNER MEETINGS

6:30 p.m.

Clark School for the Deaf
Central Institute for the Deaf
Gallaudet College
Lexington Avenue School for the Deaf
Western Pennsylvania School for the Deaf
Others if arrangements are made.

FRIDAY, JUNE 30

RECREATION

Scheduled Tours:

Mt. Hood and the Columbia River
Oregon Coast Trip
Deep Sea Fishing

WANTED

Teachers of the deaf in public school setting; openings at primary, elementary and secondary levels. Must meet certification requirements for State of Ohio. Salary range: $4600 to $7600 for 10 months. ***Apply to:*** **Miss Sarah E. Metzger, Associate Director, Personnel, Cincinnati Public Schools, 608 E. McMillan St., Cincinnati 6, Ohio.**

Plans for refinement and expansion of services, beginning with the 1961-62 School Year, will necessitate additions to the staff of The Pennsylvania School for the Deaf.

Applications from qualified, experienced persons in the areas of administration and supervision are invited. Interested persons should write, giving complete educational background and experience, to:

JOHN G. NACE, HEADMASTER
THE PENNSYLVANIA SCHOOL FOR THE DEAF
7500 Germantown Avenue
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AUSTINE SCHOOL installs
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The IDEAL Auditory Training Equipment

The modern and more efficient classroom at The Austine School, Brattleboro, Vt. The TALKING RAIL by MELODY MASTER*, combines the advantages of Individual Microphones; clear, distinct and NATURAL sound, plus comfortable listening with PERMADYNE* Dynamic Headphones with full binaural adjustment.

EQUIP YOUR NEXT CLASSROOM

like this one to conserve space, in addition to helping you speed speech and language training to a degree you never thought possible a few years ago. Comes complete with all wiring in the TALKING RAIL for long trouble-free performance.

The name MELODY MASTER* is your assurance of top engineering, research and painstaking skill in fabrication of every item required for better speech, better language and better academic training.

There is a unit designed for use in home or any size class in school.

Write for new booklet "Auditory Training Develops the Habit of Hearing."

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* Reg. U. S. Patent Office

READY NOW! Catalog sheet describing PERMADYNE* Extended Range Moving Coil Dynamic Headphones.

Membership

THE CONVENTION OF AMERICAN INSTRUCTORS OF THE DEAF

Information concerning membership in the Convention of American Instructors of the Deaf may be obtained from the Treasurer of the Convention, Thomas Dillon, New Mexico School for the Deaf, Santa Fe, New Mexico. Annual membership dues are $2.00. All teachers of the deaf in the United States and Canada are eligible for membership. Members of the Convention receive a copy of the printed *Proceedings* of the Convention of American Instructors of the Deaf. Those desiring subscriptions to the *American Annals of the Deaf* should write to the Editor, Gallaudet College, Washington 2, D. C. The yearly subscription rate is $5.00.

Back Issues of the Annals Wanted

• • •

We have orders for back issues of the *American Annals of the Deaf* which we are unable to fill because the supply of some numbers has been exhausted. We need copies of the following back numbers. The *Annals* will pay the express charges to anyone sending in the following back issues, or any back issues.

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1849, 1850, 1851, 1852,
1853, 1854, 1855, 1856,
1857, 1858, 1859, 1860,
1861, 1868, 1869
October, 1870
April, 1892
January, 1895
April, 1895
January, 1906
September, 1906
September, 1907
January, 1908
May, 1909
September, 1909
November, 1909
May, 1910
May, 1912
September, 1915
January, 1953
September, 1953
September, 1954
September, 1955
March, 1956
January, 1957
September, 1957
November, 1957
January, 1958
March, 1958
January, 1959
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September, 1959
November, 1959
January, 1960

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Principal of metropolitan area school for the deaf and supervisor of services for the hearing handicapped.

Salary range $8750 to $10,900

Address inquiries to:

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Trained Primary and Intermediate Teacher Open in September, 1961. $4350-6450 for B.A., $4650-6650 for M.A. Additional salary allowance for 16-24 hours special training at accredited training center.

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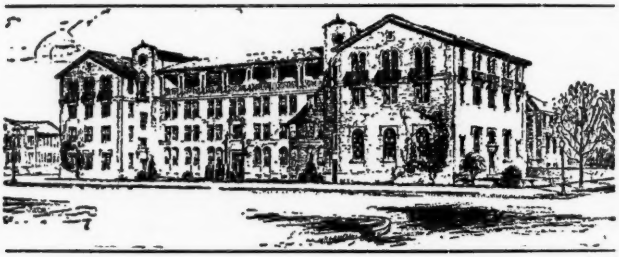
THE Language Outline prepared by the members of the faculty at Central Institute for the Deaf, St. Louis, Mo., has been reprinted for the sixth time since it was originally published in the AMERICAN ANNALS OF THE DEAF in September, 1950. Copies may be obtained for fifty cents. Orders may be sent to the AMERICAN ANNALS OF THE DEAF, Gallaudet College, Washington 2, D. C.



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A new instrument incorporating traditional Grason-Stadler quality construction and featuring compression amplification. It is designed to offer the utmost in simplicity of operation, portability and low cost. In addition to a monitor loudspeaker six outlets can be connected simultaneously, each with its own volume control.

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WISCONSIN SCHOOL uses

MELODY MASTER*

The IDEAL Auditory Training Equipment

The WISCONSIN School for the Deaf at Delavan, Wis., uses MELODY MASTER* to speed speech, language and academic training.

With MELODY MASTER*, the IDEAL Auditory Training Equipment, it is easier for student and teacher because the sound is clear, distinct and NATURAL—makes every recitation a pleasure thus speeding results.

This is the class of Mrs. Lucille (Neesam) Taylor enjoying a "family circle" recitation. They are seated in front of a well made circular table (built in the manual training shop). Note the Crystal Ball mike the teacher is wearing. Light in weight and no clothing noise.

Also in use, the latest development by MELODY MASTER*—the PERMADYNE* Extended Range Dynamic Headphones with a wider, flatter frequency response and much greater power handling ability. (Write for catalog page.)

Be sure to write for the new booklet "Auditory Training Develops the Habit of Hearing."

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• **Group or Individual** • **Binaural or Monaural**
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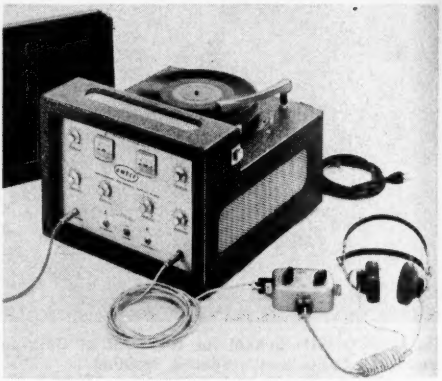
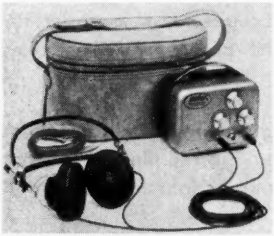
MODEL 1450
BINAURAL STEREOPHONIC GROUP TRAINER

Two fully transistorized channels complete with dual microphones, stereophonic record player, dual amplifiers and earphones enable the Model 1450 to very nearly duplicate the function of the normal ear in all phases of perception and identification... with both live and recorded material. Ample AC power reserve more than meets the needs of the profoundly deaf... power for 20 stations. Snap-in modules for easy service.





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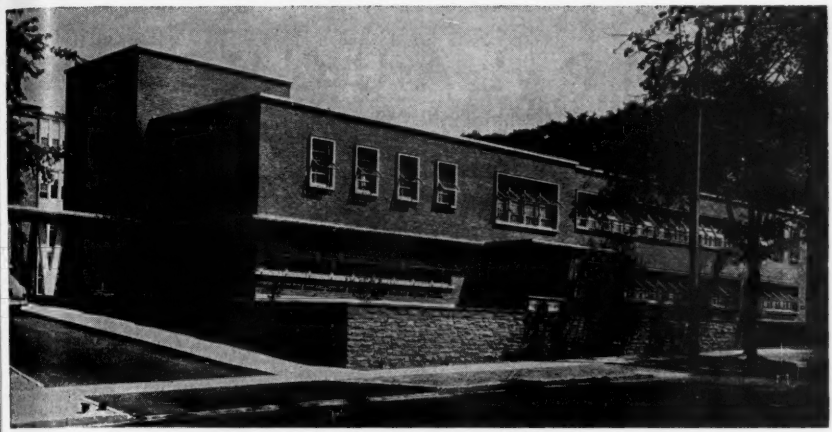

SYRACUSE UNIVERSITY

announces the opening of its Summer Residence School for 1961.

THE SCHOOL IS FOR

hard of hearing and deaf children. They are provided with a rehabilitation program including auditory training, lipreading, speech and language activities, and, where desirable, the selection and evaluation of hearing aids.

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children who stutter. Their training helps them speak with less effort and strain, and aids them in making the necessary emotional adjustments toward speech experiences.

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COST OF THE SCHOOL

for the full term is $375.00 per child. This amount includes instruction, testing and continuous diagnosis, health services, recreation, supervision, and board and room. Bed linen and blankets are furnished by the School. Towels, clothing and personal laundry are provided by the child. Spending money should be limited to $10.00 for the entire period. It should cover all incidental expenses and is supervised by the Staff in the interest of health and general morale.

FOR INFORMATION, WRITE TO

DR. LOUIS M. DiCARLO, *Executive Director*
Syracuse University
Gordon D. Hoople Hearing and Speech Center
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Syracuse 10, New York

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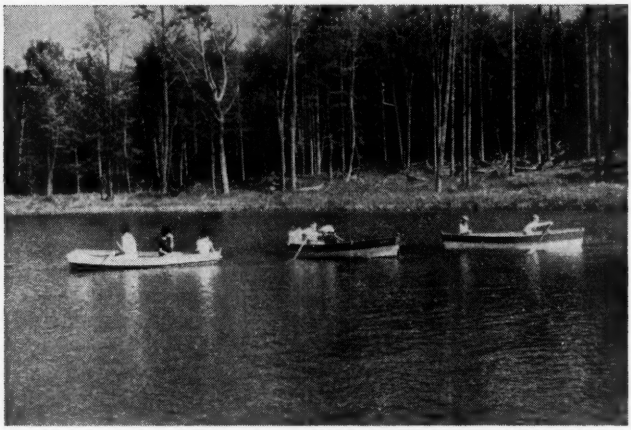

Boating on our private lake

Camp Laughton is dedicated to the physical development and personality growth of each camper. Emphasis is placed on training to work and play successfully with others. Small groups directed by trained personnel provide each child with the opportunity to acquire unique experiences as a basis for language and speech growth.

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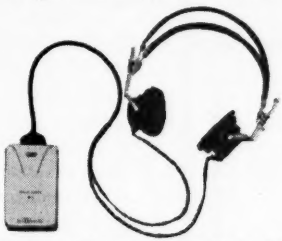
BETTER SCHOOLS throughout the World use WARREN PATENTED GATED COMPRESSION AUDITORY TRAINING EQUIPMENT

W-1 WEARABLE AUDITORY TRAINING UNIT

The New Warren W-1 is a marvel of engineering, developed and perfected by audio specialists with years of experience in the auditory training field.

The W-1 offers completely new standards of HIGH POWER OUTPUT with EXTREMELY LOW DISTORTION. PENETRATION, DENSITY and CONFIGURATION OF SPEECH is unparalleled in a wearable auditory training unit. The student using a W-1 naturally developes a high degree of RETENTION.

The Warren W-1 actually contains THREE SEPARATE MODES OF OPERATION — Either of which can be selected at the flip of a switch. In one switch position the student is automatically "tuned in" to the FREE FIELD MAGNETIC LOOP CHANNEL of his particular classroom. A second switch position shifts the W-1 over to a second MAGNETIC LOOP CHANNEL such as might be used in an auditorium, assembly hall or other group meeting place. In the third position, the W-1 operates as an independent unit for personal instruction of the student



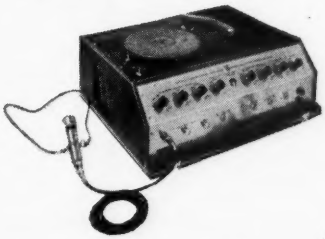
through its regular microphone input channel. Used in this manner, the W-1 provides a natural transition to the student's later use of a regular type hearing aid.

The Warren W-1 uses FIVE TRANSISTORS in a revolutionary new stabilized, low distortion circuit and is easily capable of driving a pair of miniature receivers to their full undistorted output.

A specially designed LINEAR VOLUME CONTROL adjusts the output level smoothly, with NO PEAKS—NO SURGES—and NO INTERNAL NOISE. The W-1 is powered by self-contained, long life MERCURY CELLS of a STANDARD TYPE, easily replaced when exhausted.

Provisions are made for use of either SPECIAL MINIATURE RECEIVERS when the W-1 is used outside the classroom—or WARREN DYNAMIC HEADPHONES when used in the auditory training classroom.

"FREE FIELD" MAGNETIC AUDITORY TRAINING SYSTEM



The engineers who first made AUDITORY TRAINING OF THE DEAF a perfected reality with the development of GATED COMPRESSION AMPLIFICATION, have now expanded that system for use with the new MODEL W-1 WEARABLE AUDITORY TRAINING UNIT.

Now — The student is completely freed of his desk, of interconnecting cables, control boxes, etc. He can literally "WALK AWAY" to any part of the classroom without missing a single syllable of the training program. THE WARREN MODEL W-1 with either miniature receivers or WARREN DYNAMIC HEADPHONES plugged-in, is the only equipment the student needs.

The rest of the system consists of the well known WARREN MODEL T-2 GATED COMPRESSION AMPLIFIER, to which is added a NEW MODEL CL-1 CHANALATOR. This combination feeds a MAGNETIC LOOP in the classroom thus enabling ANY NUMBER OF STUDENTS to receive the training program. Any number of classrooms can be set up with no interference from adjacent classroom channels.

The MODEL W-1 also has switch positions for a common channel such as an auditorium, gymnasium or other group meeting place.

The new WARREN "FREE FIELD" MAGNETIC AUDITORY TRAINING SYSTEM has revolutionized the field because it's many advantages MAKE THE TEACHING JOB EASIER — THE LEARNING FASTER. We will gladly acquaint you with full details on this "YEARS AHEAD" equipment.

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facilitites for basic and applied research in speech pathology, experimental phonetics, experimental audiology

NORTH CAROLINA SCHOOL Uses 20 Rooms

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PHOTO COURTESY NCSD

We salute Miss Bowers and the 19 other teachers at NCSD, the third largest School for the Deaf in the United States, who are using MELODY MASTER and proving that residual hearing, however small, may be developed into communicative skills, formerly considered possible only with the milder hearing losses.

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If you as a teacher work without salary, your teaching time is still too valuable to waste with the various gadgets, gimmicks, miracle circuits, "howling successes," mediocre and outmoded equipment, which does nothing except add to your frustration and that of the future citizens. With MELODY MASTER you have clear, distinct and NATURAL sound so necessary for better speech, better language in a fraction of the time.

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Precision fitted to all types and degrees of hearing loss. Wide choice of styles at reasonable prices.

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Models 33 & 31

Completely portable battery operated individual units.
Compact, self-contained, lightweight, rugged, reliable.
These instruments are true binaural HIGH FIDELITY all transistor amplifiers engineered for the hard of hearing.
Especially suitable for integrated classes.

Model 33—Master Auditory Trainer for auditory training at its best!

This deluxe model auditory trainer incorporates three individual adjustments for each ear making it extremely versatile.

Amplification can be "tailored" to the individuals particular type of hearing loss.

Gain Control—Up to 75 db acoustical gain.

Maximum Output Control—limits maximum possible output SPL to value indicated on dial. Adjustable in 5 db steps from 105-135 db re 0 db SPL.

Especially useful for recruitment cases.

Frequency Response Control—attenuates frequencies below 1000 cps at any rate between 0-18 db/octave. All controls are calibrated in decibels. Size: 3" x 7" x 2".

Model 31—Auditory Trainer

A portable economically priced binaural unit with dual volume and tone controls.

75 db acoustical gain—135 db output re 0 db SPL.

Two position tone control allows either flat frequency response or accentuates the high frequencies.

Size: 3" x 5" x 2".

Both models of the EB Auditory Trainers are available with any one of three types of headsets.

Type S headset

Under-the-chin
Lightweight

Frequency response
100-6500 cps.

Type HF Headset

Audiometer type
Dynamic

Frequency Response
100-8000 cps

Type SI headset (not shown) consists of two individual hearing aid type receivers with wye cord—for use with earmolds—frequency response 100-6500 cps. Output 135 Db SPL.

EB Auditory Trainers utilize mercury batteries which are leakproof and have extremely long life. With normal daily use these batteries will last approximately one year.

Excellent free field pickup of radio or phonograph.

These units have excellent directional discrimination.

Quantity discounts available to schools and institutions.

Send for descriptive literature.

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Written for children with language limitations — the deaf and retarded — by experts in education of the deaf, the four graded texts in this series are now available to meet a nationwide demand. Many teachers are even using them in regular primary classes. Simple language, work sheets, pages to color and cut out, teacher's guide, durably bound. Set of four, $6; single copies, $1.50.

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IMMEDIATE NEED teacher of the deaf; Rome, New York; teacher of speech in high school department; duties include speech and language development, speech reading and auditory training; work in coordination with speech and hearing therapist; $5,000—$7,200, depending on training and experience; 10 mos., B.A., M. or F; age open; immed.; Fred L. Sparks, Jr., Superintendent, The Central New York School for the Deaf, Rome 1, N. Y.

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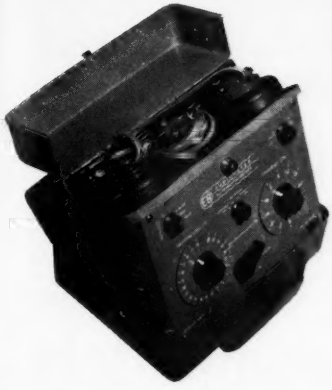

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ALL TRANSISTOR - PORTABLE

Model 200 (Pat. Pend.)

FOR THRESHOLD & SCREENING TESTS

An instrument engineered for those who have need for a compact and lightweight audiometer designed according to ASA specifications.

A highly compact all transistor basic audiometer designed for use in the field or office, combining ease of portability with all of the features and reliable performance expected in a full size audiometer.

Incorporated within this audiometer are many advanced features including an all transistor circuit. The audiometer itself is housed within a professional and attractive carrying case of which it is an integral part.

TROUBLE FREE AND STABLE OPERATION IS ASSURED BY SUCH DESIGN FACTORS AS THE FOLLOWING:

Virtually shockproof and rugged circuitry achievable only with transistors permitting constant output levels and accuracy of attenuator settings at all times.

Inherently stable oscillator circuit producing unusually pure tones with low harmonic content.

An efficient rapid acting tone interrupter which provides for tones which are free of clicks.

Unique storage compartment which allows easy removal and replacement of double headset.

An automatic battery replacement indicator which gives advance warning before batteries need to be replaced.

OVERALL FEATURES:

Full range attenuator: accurate at all levels and quiet in operation.

Full range frequency switch has 360° dial rotation.

Tone interrupter reversal switch.

No A.C. electrical connections needed; powered with low cost standard leak proof mercury batteries assuring over one year of heavy duty operation before battery replacement is required.

Temperature stabilized circuitry assures accurate operation at all times.

Group model permits multiple testing.

Diagnostic model provides white noise masking plus bone conduction.

Extremely low maintenance cost (Rugged and shockproof transistor circuit eliminates need for costly repairs).

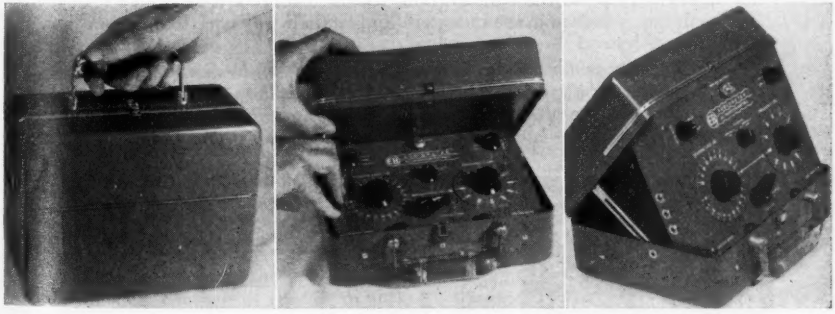
All aluminum case attractively finished.

Complete with two approved type dynamic phones, headband, cords and batteries.

SPECIFICATIONS:

Attenuator Range:—10 to 100 db in 5 db steps.
Frequency Range: Eleven frequencies; 125-8000 CPS. including mid-frequencies.
Power Source: Popular type mercury batteries.
Frequency Accuracy: Within 2% of specified frequency.
Calibration Accuracy: Within 1.5 db of indicated levels.
Tone Interrupter: Total rise and decay time; approx. 0.1 sec.
Dimensions: 7 x 9¼" x 4¼" (when closed).
Weight: 5 lbs. complete.

Model 200	**$285**
Model 200G, (with Group Output)	**$300**
Model 200MB (with White Noise Masking & Bone Conduction)	**$335**



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Makers of Fine Auditory Equipment

In selecting a ***HEARING AID...***

ZENITH recognizes a double responsibility

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2. World Famous Zenith Quality and Performance! To guard the performance and dependability of every Zenith Hearing Aid, maximum care is taken in the manufacture of every unit—and a series of critical inspections are made before any instrument is delivered!

3. Servicing Facilities Unmatched in the Industry! To assure maximum performance for your patients through the years, Zenith maintains four factory service centers strategically located across the nation, plus many factory-trained technicians in our dealers' place of business. Instruments received at these service centers are serviced by the finest craftsmen in the industry—and on their way back to owners within 48 hours!

When you consider a Zenith Hearing Aid, you can be assured your patient will receive every benefit possible—from the understanding, skilled assistance of Zenith dealers to instruments of finest quality and performance—backed by the world leader in TV and radio.

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"LIVING SOUND"
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Please send me the complete story about the newest Zenith "Living Sound" Hearing Aids.

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Est. 1875

THE CENTRAL NEW YORK SCHOOL FOR THE DEAF

ROME 1, NEW YORK

Oral education for the deaf: Residential and Day School—co-ed, ages 3–20, Nursery, Kindergarten, Grades I–VIII, High School 1–4, Academic-Vocational. 70 Boys, 60 Girls. This Public-Private School provides speech and speech reading and auricular program, combining residential-day school and home environment plus religious emphasis program, to develop deaf pupils to become "all He or She is Capable of Being."

Free State Appointment Scholarships to Residents

Out of State Room, Board and Tuition $3,000 per Year

The Central New York School for the Deaf, as its name implies, is located in the very heart of New York State. It is situated in the City of Rome—"The Christmas City," "The Copper City," "Winter Wonderland," and a place where "there is time for living."

The program for the School is oral. The children are well behaved, normal, intelligent and the atmosphere of the school is friendly and home-like.

We also take this means of acquainting teachers of the deaf with our salary schedule, of which we are proud and, candidly, we hope that some more good teachers in the profession may decide they would like to come to Rome and teach at THE CENTRAL NEW YORK SCHOOL FOR THE DEAF, as vacancies occur and teachers retire.

SALARY SCHEDULE

	B.A. Schedule	M.A. Schedule
1.	$5100	$5400
2.	5200	5500
3.	5300	5600
4.	5500	5800
5.	5700	6000
6.	6000	6300
7.	6200	6500
8.	6400	6700

M.A. Schedule Maximum $7800

B.A. Schedule Maximum $7400

All increments beyond step eight are on merit basis—promotional.

In addition noon luncheon is furnished.

PRIOR TEACHING EXPERIENCE MAY BE FULLY RECOGNIZED

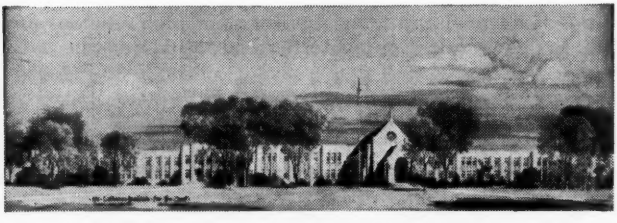
The American Flag was first flown in the face of an enemy on August 3, 1777, at the siege of Fort Stanwix, Rome, New York. (Information service of the Rome, N. Y., Chamber of Commerce.)

For further information, please write:

Fred L. Sparks, Jr., Superintendent
THE CENTRAL NEW YORK SCHOOL FOR THE DEAF
Rome 1, New York

Lutheran Institute for the Deaf

Founded 1873



A PROTESTANT ORAL HOME-SCHOOL FOR DEAF, HARD OF HEARING AND APHASIC-DEAF CHILDREN FROM THE AGE OF THREE— NURSERY THROUGH EIGHTH GRADE.

ALL BUILDINGS MODERN AND FIREPROOF, HAVING BEAUTIFUL HOME-LIKE APPOINTMENTS.

Twenty-Acre Campus within the City of Detroit with Wooded Park and Ample Playground Facilities.

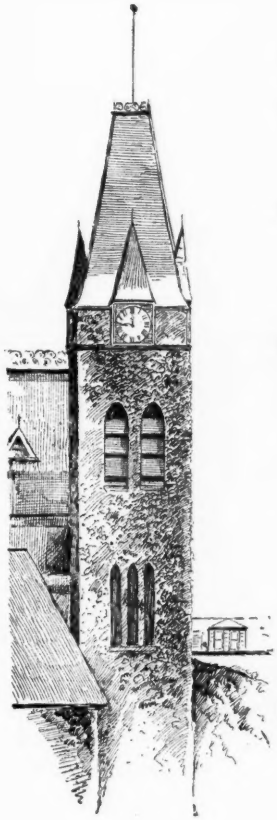
SMALL CLASSES — QUALIFIED TEACHERS — MODERN METHODS, CLASSROOMS and APPLIANCES. Individual and Group Hearing Aids, Visual Aids and Television.

SWIMMING, TOBAGGANING, COMPETITIVE SPORTS WITH HEARING GROUPS, SCOUTING, and other recreational features.

Pupils enrolled from all parts of the U.S. and Canada. — NOT RESTRICTED TO LUTHERANS. — All parents desiring for their children a thorough elementary education together with Christian guidance in a home-like environment should write the Director for further information.

John A. Klein, Director, 6861 Nevada Ave., Detroit 34, Michigan

GALLAUDET COLLEGE



- For students whose loss of hearing makes it difficult for them to attend a college for students who can hear
- Four year course leading to the B.A. and B.S. degrees
- Two year course leading to the degrees of Associate in Arts or Associate in Applied Science
- Preparatory Department Last year in senior high school

GRADUATE DEPARTMENT OF EDUCATION

- For graduate students with normal hearing who are preparing to teach the deaf or to serve in administrative positions in schools for the deaf
  One year course or four summer sessions leading to the degree of Master of Science in Education
  One year course leading to the Professional Diploma in Administration and Supervision in Schools for the Deaf
- For counselors who wish a deeper understanding of the deaf and their problems
  Four-week orientation course

THE KENDALL SCHOOL

- Elementary and Secondary

HEARING AND SPEECH CENTER

- Preschool

Accreditation

Gallaudet College is accredited by the Middle States Association of Colleges and Secondary Schools

For further information, write to The President, Gallaudet College, Washington 2, D. C.

The Conference of Executives of American Schools for the Deaf

FOUNDED 1868

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